THE FARMERS' CABINET,

AND

AMERICAN HERD-BOOK.

DEVOTED TO

AGRICULTURE, HORTICULTURE, AND RURAL AND DOMESTIC AFFAIRS.

Perfect Agriculture is the true foundation of all trade and industry.—LIEBIG.

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The Gad-fly--Sheep-nose Worms.

EDITOR OF THE FARMERS' CABINET,—Under the above head, in the third No. of the current volume of the Cabinet, I observed an article which attracted my attention with peculiar interest at the time, inasmuch as a disease to which sheep are incident, sometimes called the "mad staggers," had a few years ago come under my observation, and which was at the time, as I believed, successfully treated, and which I have now no doubt, was occasioned by the sheep-nose worms, described by the above article. I had often thought of giving to the public the result of my experiment, but was as often deterred from the fear that I should be laying a tax upon the credulity of my readers, for I had never before heard of worms being found in the cavity of a sheep's head; and when I have mentioned the fact of my observation, I conceited that I was looked at rather doubtingly.

A few years ago, I had a small flock of very fine sheep; some time in the first month I discovered one of them lying down, while the rest of the flock were at some distance off feeding. I went to see what was the matter; when I had got nearly up to her, she jumped up and ran, as if to join the flock—but she appeared to be irresistibly impelled in a circular direction: this was continued as often as I attempted to approach her, until her strength was exhausted, and then I was permitted to get as close to her as I wished. I noticed that she kept her head inclined to one side, exhibiting a constant twitching of the eyes, with a strong convulsive, spasmodic affection of the muscles of the nose and face. I several times raised her upon her feet, and let her go—she would invariably run around and around, and at length fall to the ground. I had witnessed the same disease in sheep before, but knowing no remedy, I left her to take her chance: she continued growing gradually worse, for nearly a week; and moreover never knowing one to recover, I concluded, as it was evident the seat of the disease was in the head, that I would cut it off, and make an examination of it. I commenced by cutting across just above the nose—but there was nothing to remark. I then cut a cross immediately below the eyes; there was still nothing to arrest the attention—the next cut was just above the eyes; the instant the lower part of the skull fell off, I saw something like worms, receding further back into the cavity of the skull—the next

cut, a little higher up, revealed the whole secret. I did not count the worms, but there were probably from 20 to 30. I have not now a distinct recollection of the different length of the worms as described by "Octogenarian," but I felt entirely satisfied that these worms were the occasion of the disease. Within a few days after, I had another sheep affected precisely in the same way;—she was entirely unable to stand upon her feet. It occurred to me, that the worms in the head might in some way be affected, either by destroying or dislodging them, by an application of tar. I had the sheep caught and removed the thick wool from the back of the head, between the ears, and in the direction of the nose;—in the mean time the tar had been warmed into as thin a consistence as would admit of its application without burning, and then with the tar stick used for the wagon-wheels, it was laid on as thick as it could be done, without a danger of its getting into the eyes. It was with the stick literally rubbed *into the skin.* In the course of twenty-four hours the sheep was so much better as to be able to join the flock—and within a week had entirely recovered. I have never since had a case of the same disease, consequently have not had an opportunity of further testing the efficacy of the application. If it had really an agency in effecting the cure, were I to speculate upon the manner of its operating, I should premise, that in consequence of the increased and increasing bulk of the worms, in the cavity which should be naturally otherwise occupied by the glandular substances of the head; the constant irritation occasioned thereby, would produce an inflammation, and this being in such close proximity with the brain, the consequent sympathy of the parts would very naturally result in the spasmodic affection which has been noticed: supposing such to be the fact, the application of the tar acting as a blister, would draw the inflammation to the surface and produce relief. Another view of the agency of the tar in effecting the cure, might be inferred from the strong effluvia thrown out by the tar, and being inhaled by respiration, may have been so obnoxious to those worms, as either to dislodge or to destroy them: should the latter have been the effect of the application, I think it is highly probable that the fumes of either tobacco or sulphur inhaled by the sheep, might perhaps be more efficacious than the tar.

If the foregoing is deemed worth a place in the pages of the Cabinet, I am willing to throw into the general stock of useful matter, my small mite. S. W.

Darlington, Harford co., Md., 1844.

Report of Experiments on the varieties of Wheat cultivated in the State of New-York.

(Concluded from page 173, last No.)

Soule's Wheat.—In the first volume of the New Genesee Farmer, this variety of wheat is noticed as being discovered, or a few heads being found, in a field of white flint, by Jonathan Soule, of Perrinton, in this county. From the best information I can obtain of its first introduction into this State, Judge Soule, of Onondaga county, obtained it at Washington.

It appears to be a mixed variety; about one-half is a red chaff, the other half white chaff bald; with me, some of it is red chaff bearded. This appears to be a valuable variety; the heads are large, five kernels abreast in a chamber; berry beautiful white, bran thin, yielding flour well, and of a good quality. This is claimed as an early variety: it has not proved so with me. It ripens the same as the white flint. In favourable seasons it will give heavy yields. It is not so hardy as some varieties: it is more subject to winter-kill. The straw is of a good size, and rather stiff, holding up its large and heavy heads well. It is not extensively cultivated, except in Wayne county. It has been considerably sought for the past season for seed. I believe it has not been sufficiently tested to admit it as the main crop.

Beaver-Dam.—This variety was first noticed in Western New-York about twenty years since. White chaff, bald, straw long and stiff, berry red, weighing from sixty to sixty-four, bran thick and tough; flour not in large quantities, and of a yellowish cast. This variety is considered a valuable one on strong rich soils, seldom lodging, rather slow in ripening. It has produced some heavy yields; in one instance, fifty-two bushels per acre. It has now wholly gone out of use in this vicinity.

Eclipse.—An English variety, much resembling the white flint in its growth and appearance; is not hardy. Our winters are too severe for it. I have discontinued it in my experiment field.

Virginia White-May.—I received this variety from Virginia, six years ago. It is a white chaff, bald, much resembling the white flint in its growth and straw; the heads are more clumped; the berry standing out more, and shells easier. The berry is not as white as when I received it, having more of a red, and very hard and flinty appearance; weighing from 63 to 66 to the bushel; bran of a medium thickness; producing flour of a good quality. The first two years I

had it under cultivation, it was equal to the white flint. Since then, in field culture, it has not succeeded as well. The last three years, I have sown it only in my experiment field. Its early maturing would make it valuable. It has not been affected with rust since I had it under cultivation, ripening six or eight days earlier than common varieties. For many years this favourite variety was extensively cultivated in Maryland and Virginia, and the high credit of their flour was established from this variety of wheat. It has now nearly disappeared there, having given way to more hardy varieties, producing flour of inferior quality.

Wheatland Red.—This is a new variety, which I originated from the Virginia May. It is a red chaff, bald, heads of medium length, and well filled with a red berry, weighing 66 to the bushel, and producing flour of good quality. This is a very hardy variety; straw of good size and very bright; it has the quality of the Virginia May in its early ripening. It has stood our severe winters as well as the most hardy variety that I have tested. I believe it is one of the most valuable kinds that can be introduced on soils where other varieties are subject to rust. The four years that I have tested it, it has had no appearance of rust. Its red berry is objectionable. I know of no red wheat that is equal to the white in quality or quantity of its flour; the bran being thicker, and will not admit of being ground as close.

Tuscan Bald.—This variety was brought from Tuscany to New York, in 1837. I first sowed it in 1839. This is a bald, white chaff, berry large and white. On the first introduction, it was supposed to be a valuable variety. If it had been sufficiently hardy to have withstood the hard winters, it might have proved so, as its large heads were well filled, and the wheat gave flour of a fine quality and fair quantity. Its being so liable to be winter-killed, caused it to be laid aside.

Tuscan Bearded.—This was from the same source as the above: it is a bearded wheat, heads very large, and beard stiff; the berry shorter than the bald Tuscan and larger, very white; a fair wheat for flour; straw very stiff, and of a blue shade; it is not as hardy as the bald: most of it was winter-killed. After a trial of three years, I have rejected it.

Yorkshire.—This variety was introduced from England into New York, about ten years since. I have cultivated it for several years. For some years it was held in high repute, but it has now nearly disappeared. It appeared to be a mixed variety of white and red chaff; bald; straw long and stiff; heads long and well filled, with a beautiful white berry. Yielded flour well and of good quality. Ripened late, more subject to rust, and more injured by insects, than some other varieties. When it did well, the yield was heavy, but it was very subject to smut, and the only variety that ever produced the ergot with me.

Bellevire Talavera.—This I received direct from England, and have sown it four years. It is a white chaff, bald-headed; straw large and long, and very white and stiff. It has not lodged with me; spreads or tillers well; is not sufficiently hardy to stand severe winters; is more subject to the insect than common varieties.

This has been one of the varieties cultivated in England and Scotland, where it is said to be one of the earliest to ripen; while here it may be called a late ripening wheat. Its large, long, and well filled heads, with a most beautiful berry, would make it a valuable variety, if it could be acclimated. So far, it has not equalled some other varieties in quantity, owing to being thinned by insects and severe winters.

Pegglesham.—This is an English variety, introduced here in 1840, direct from England. White chaff, bald, straw short, and heads very large and clumped: the kernels set in very thick: the upper end of the head the largest; the berry medium size and white. With me it has not proved hardy; very subject to lodge, the heads appear too heavy for the straw. The winters are too hard for it. I have rejected it.

Golden Drop.—An English variety, red chaff, bald; long straw, large and stiff. This is more hardy than most of the English varieties. The berry being red, bran thick, not yielding flour equal to the common varieties, is a strong objection to its culture in this vicinity. I have given up its culture, believing it does not come up to many of the varieties I have had under cultivation.

Skinner Wheat.—This variety was obtained by selecting the heads from a single stool in a field in this town, by a man whose name it bears, about fifteen years since. It is a white chaff, bearded, straw short and very stiff; berry red, of good size, weighing 64 lbs. to the bushel: this is very hardy, and has been sought for to sow after corn, and on light soils. Its long stiff beards, and stiff straw, and late ripening, are objections to its culture. For a number of years it was considerably cultivated in this section, on good soils, and it has given some heavy yields; but it has latterly given way for more approved varieties.

Mediterranean.—This variety was intro-

duced into Maryland, from the Mediterranean Sea, six years since. It is a light red chaff, bearded, berry red and long, very flinty, bran thick, producing flour of an inferior quality. In a communication from a wheat-grower on the eastern shore of the Chesapeake Bay, dated September 6th, 1842, speaking of the wheat crop, he says, "the variety that has succeeded best here this season, is the Mediterranean. It is a bearded wheat, remarkably heavy, but the grain is about as dark as rye, and not plump. It ripens about ten days earlier than any other variety, and has escaped every disaster, for several years."

From another, from where it was first introduced: "It is a coarse red-bearded wheat, and makes inferior flour; its only merit, in my estimation, is that it ripens earlier, and is less liable to rust than any other variety."

This variety may prove valuable at the south, being seldom affected with the fly, and its early ripening is favourable on account of rust. Its long stiff beards, heads short, shelling very easy—so much so, that if it is not cut while in its doughy state, there will be a great loss—and the inferior quality of its flour, are strong objections to its culture, where wheat of superior quality succeeds well.

Hume's White Wheat.—This is a new variety, obtained by Major Hume, of Riga; it was selected from a field of flint, three years since; being larger in its growth, and ripening earlier; it is a beautiful white wheat, berry large, bran thin, much resembling the improved flint in every respect, except that it shells easier. It is hardy, and thus far appears to be a valuable variety. I shall give it a fair trial.

Blue Stem.—Has been cultivated in Virginia for about thirty-three years; white chaff, bald, berry white, weighs 64 lbs. to the bushel, bran thin, producing flour of superior quality. Formerly this was a red wheat, now it is changed to a beautiful white. Straw fair size, producing well; it is now one of the most productive varieties cultivated in Virginia. I am giving it a trial.

Valparaizo Wheat.—This is from Valparaizo, South America; white chaff, bald, berry white, bran thin, much like the white flint: it has the appearance of a valuable variety. The past season is the first that I have sown it. I am in hope to give a good account of it hereafter.

All the above varieties I have had under cultivation, are winter wheats, and the short descriptions of their qualities, are as they have proved with me thus far: also the Blue-Beard, a dwarf variety. I received this variety from France, and cultivated it two years. Straw about two-thirds as large and long as the common varieties; grows thick, stools out well; heads about one and a half inches long; beards very long, adhering very close to the head, and of a bluish cast. The berry is in size, in proportion to the head—of a dark flinty appearance, and very solid; it is one of the earliest varieties to ripen, and is very hardy. There is a winter grain, and I am of the opinion that it would succeed where no other could. It is a small yielder and the flour of poor quality. I have rejected it.

Egyptian Wild-Goose, or California.—There is a winter and spring wheat bearing these names, both bearing the same appearance. The spring wheat has been the most cultivated; it has not met with general favour. This variety has a large head branching out so as to show six or seven short heads attached to the main head, and bearded; berry not large, bran thick, producing flour of a coarse and harsh feel, of a yellowish cast, resembling barley flour. With its large head, it has not been found very productive, ripening rather late, and very subject to rust. Some years since, the same variety was brought from California, as a new variety; it has been sown as a winter wheat, and has produced a better berry; it has not succeeded well so far, for it is not hardy. The straw is large and stiff. It is not likely to become acclimated so as to make it a valuable variety. The straw being large, it is late in ripening; it is cultivated more for its singular appearance than for profit. In the eighth volume of the Cultivator, page 183, is a fair account of this wheat.

Rock Wheat was introduced into this country from Spain, more than forty years ago: white chaff, bearded; berry red and long; bran thick; producing flour of fair quality. This is a very hardy variety; straw small and short, subject to lodge; grows very thick, stools well, is several days later in ripening than the common varieties. It is mostly grown in the southern tier of counties in this State. It is well adapted to new lands and late sowing, and on unfavourable soils, giving better returns than almost any other.

Black Bearded.—This variety was cultivated to considerable extent in the middle counties of this State, forty years ago. Straw large; heavy heads, well filled with a large red berry; beards very long and stiff. This was called one of the hardiest varieties; it sold well in the Albany market, producing flour well for red wheat. Its long stiff beards were strong objections to

its culture. I have seen but one field of this wheat growing in Western New York.

Red Bearded.—An English variety, and has been cultivated for many years in this section of the State: red chaff, bearded; beards standing out from the head, and when fully ripe a little bending down; berry white, weighing from 60 to 62 pounds to the bushel; yields flour well and of good quality; this is a hardy variety, succeeds well after corn, or on light soils. In one instance in Niagara county, when sown after corn, producing 44 bushels to the acre. It is mostly sown on clay loam soils—there it succeeds best. Straw not large or very stiff. This variety would be more extensively cultivated, if its beard were not objectionable.

Scotch Wheat.—This variety has been cultivated for several years in Western New York. Its origin is not known; it is a large white wheat, varies but little from the Indiana; berry some larger; does not shell as easy, straw large; it is mostly cultivated on the Tonawanda oak-openings, where it is held in high estimation.

Italian Spring Wheat was introduced by Mr. Hathaway, of Rome, Oneida county, and for several years was much sought for. For the last few years it has not succeeded as well as formerly, and is much less cultivated. This is a bearded wheat, white chaff, heads long, the chambers standing apart more than the common varieties; berry red, long, not very full; bran thick, flour of fair quality. Spring wheats are most valuable on soils where the winter varieties are thrown out by the frosts of spring.

Tea Wheat or Siberian Bald.—This is a spring wheat, one of the most valuable of the spring varieties. It is extensively cultivated in New England and in the north part of this State. Straw not long, very bright, the heads bald, and with a beautiful white berry producing flour of good quality. The straw is not so large as the Italian, ripening earlier; the berry sits more close in its chamber, not subject to rust. I have cultivated it for several years. I have, however, rejected all spring varieties.

Black Sea Wheat was first introduced into the State of Maine, and has been successfully cultivated there for several years, as well as in some of the other New England States. It has succeeded the best of any of the spring varieties in Vermont; being earlier in maturing, is less affected with the grain worm—seldom rusts or mildews. This is a white chaff, bearded; straw soft, very subject to get down, which does not injure it in filling; berry long and red, weighs well, bran thick, producing flour of an inferior quality. Its early ripening gives it the preference to others.

I have received a description of several of the most valuable varieties of wheat cultivated in Virginia and the South, and had specimens of them forwarded to me, but they have been miscarried. If I had succeeded in getting them, I would have given a description of them here. I hope to be more successful at some other time.

This list might have been much extended, but I have confined myself to such varieties as I have had under cultivation, or those that have come under my own observation.

The Island of Ichaboe—Guano.

THIS island, which has caused so much commotion amongst ship-owners and speculators, and which has given rise to the employment of so much shipping from the principal ports both of England and Scotland, in this new branch of trade, is situated in 26° 13′ 34″ south latitude, about 22 miles north of Angra Pequina—a well determined position, which vessels bound for Ichaboe, generally try to make. The mainland, for several hundred miles on both sides of Angra Pequina, presents to the eye of the mariner a barren, inhospitable, and dangerous line of sea-coast, lying low, though backed with high land in the interior. The strong glare arising from the arid sand, and the density of the atmosphere, calls for the utmost vigilance and caution on the part of the master-mariner approaching it during the night; for, if he once gets deceived, and into the current which sets upon the shore, the destruction of his vessel is inevitable. Along this seaboard there is not the slightest symptom of vegetation; indeed it is much to be questioned whether vegetation would thrive, whatever might be the quality of the soil, as no rains fall in this region. True, there are heavy dews, occasionally falling both day and night; but the cold is so severe, for such a high latitude, during the fogs, and the sun, when it does break forth, is so powerful and scorching, that in all probability, between these alternating temperatures no vegetation could survive. The island itself is a barren, shelving rock, about a mile long from north to south, and half a mile across at its broadest part. It is bounded all round by reefs, except on its eastern side, where there is an anchorage from five to six fathoms. A portion of the island is in the form of a flat shelf, about 1100 feet long and 500 feet broad in the widest part. Upon this shelf, and about six feet above high water, is accumulated that deposit of guano which gives so much celebrity to the island,

and which varies in depth from 35 to 38 feet. Taking the average width of the deposit at 400 feet, and assuming the average depth to be 36 feet, the total quantity of guano will be about 158 millions of cubic feet. The climate of Ichaboe, notwithstanding the effluvia of the volatile ammoniacal gases emitted from the guano, is very healthy. As one proof of its salubrity, it is mentioned that at a period when thirty-five ships were lying off the island, their crews, comprising altogether not fewer than 700 men, most of whom were enduring exceedingly laborious employment in that hot region, there were only five cases of sickness, and these, complaints or affections of the lungs. As has been already remarked, there falls during the night a very heavy dew, attended with a piercing coldness of temperature; and even during the day, if the sun's rays be intercepted, a cold, disagreeable sensation is immediately experienced. On the sun again breaking forth, its rays speedily scorch the lips, and indeed the whole face and hands, of every person of fair complexion; and the lips of very few escape this tormenting annoyance. The only relief the sufferer can find, is by anointing the skin with hogs' lard, in imitation of the custom of the inhabitants of the mainland, who profusely lubricate their persons with palm oil.

With reference to the guano, our author expresses a decided opinion, that the substance is not, as has been generally supposed, exclusively composed of the soil of marine birds, which he believes to form only a comparatively small portion of the mass. He supposes it chiefly to consist of the decomposed bodies of marine birds and animals, together with the eggs of the former, and the excrementitious matter of both. He personally superintended the working of a pit of guano, 35 feet by 18 feet, and from all that came daily under his observation, he was inclined to the opinion that this barren rock had been a favourite place of resort for ages, for penguins and other aquatic birds; that myriads of them had successively deposited their eggs there, and had subsequently died on the island; and that it had also been a favourite haunt of seals and other marine animals. In working the pit, the men occasionally came to a stratum of a light brown colour, and of greater levity than the strata above and below it, and imbedded in this stratum they invariably found numerous skeletons of penguins, in the last stage of decomposition, and vast quantities of their eggs. Having worked through this, the men would probably come after a time to another stratum of a much darker brown, and much heavier description; and the substance composing the bulk of this stratum, when rubbed between the fingers, would dissolve like tallow, and exude much more oil or fat than the first. Throughout this dark coloured stratum, the men occasionally found many bones and skeletons of seals nearly decomposed, and but very rarely any remains of penguins. The appearance of the stratum suggested to him the idea of a great number of seals having been washed on shore, or having laid down in this spot to die. He adds, that the strata were not by any means regular in their alternations; but as a general rule, he did not find both the light and the dark coloured strata in close succession. The pit here referred to, was in the centre of the island.

With regard to the amount of guano existing on Ichaboe and the adjacent islands, another writer thus remarks: "I have been many times on this coast, and also on the continent, in search of guano and gold dust, and have found both; but in such small quantities, and of such inferior qualities, that it has not been worth the trouble of shipping home. Here there is no rain, as at Angra Pequina, which makes the guano especially valuable. Many thousands of tons there have been taken in, and cast away when it was discovered the rains had caused fermentation, and destroyed the properties of the guano. It is clear, therefore, that it can only be obtained where no rain falls, and then it must be upon islands which the birds frequent, as they will not settle upon any part of the continent in great numbers. My conclusion, after much search and thought, is, that there is very little guano in the world, and that if farmers should expect it they will be deceived. The guano of Ichaboe has been worked since the beginning of 1844; up to the end of May, about 100 cargoes had been shipped; and now fully one-third of the deposit is gone. I am fearful," continues this writer, "that a great sacrifice will be made in this place. Upwards of 1000 persons from England,—living, for the time, without the law of God or their country—produce much anxiety: several rebellions have taken place; the *Thunderbolt* steamer, man-of-war, restored order, but the very day she left, the men declared their reign of power to have commenced. We repressed them, and sent two ringleaders to St. Helena."—*Chambers' Edinburgh Journal.*

Shut your eyes to the faults of your neighbours, but open them wide upon your own. Stop your ears to the voice of slander, but be ever ready to listen to that of friendly admonition.

From the Union Agriculturist.

Time is Money.

Dear Sir,—I begin to fear that yourself and others may think that I do nothing but write; as I send you something for every number of your paper. Well, suppose that should be the conclusion,—if I had nothing else to do all would be well. But farmers have something to do, besides writing for agricultural papers. This all know; how then, many will inquire, does C. find time to write. If I may answer the question myself, I shall say, that I am troubled to dispose of my spare time—of the long winter evenings—of the stormy days, and a great many bits and ends of time.

I may be answered—teach your children; make and mend such articles as you can that you need; read the newspapers, and such books as you have or can get; this I do, and yet there is spare time.

My wife and self manage to teach seven children; and during the winter, keep them at their studies more hours than if they were at school. I make and repair all the wood part of my tools, and some of the iron, and repair all our boots and shoes; my wife and daughters, the oldest sixteen, work up our wool, about 70 pounds, both spin and weave it; myself and boy, thirteen years old, till about forty acres, and provide for stock that require 40 tons of hay, besides all the coarse fodder that we can muster; this, besides all the incidental work about the house and farm, we do without hiring. Books and papers are literally worn out by being read. The Chicago Democrat or Union Agriculturist, is hailed with as much joy as an old friend; and if, as we frequently do, we receive a paper from distant friends, nothing could give greater pleasure, except the appearance of those friends.

A great wonder with me is, how men and families spend their time, without even a paper or a book, or any thing else of the kind. Even their Bible might as well be made of wood, bound and gilt, to save appearance, as to be filled with the words of God.

Never have I written, except in the evening; and then generally have some half dozen children about the same time at their studies. Some with slates, some with books, and some with more mischief than study. Even now, one little one pops up her head, with, "Father, how much is eleven times six?" Set down eleven and multiply it by six?—"what, six times eleven?" no six times one, and then six times one again. "O! I see; sixty-six." Now multiply 7, 8 and 9 in the same way: so I write, teach and rest myself; at the same time killing *three* birds with one stone.

Now to my reasons for writing. If I say I write to benefit others, none will believe me in these selfish times; well then, I write to amuse myself, and to use time.

A. Churchill.

Avon, March, 1841.

Pointed-toed Shoes.

He was a cunning and a clever shoemaker, who first succeeded in turning old Grandfather Squaretoes into ridicule, and in setting up Young Shapefoot as a pattern for universal imitation. What must have been poor old Dame Nature's surprise and vexation, when she saw and felt the abominable change? The toes have their duty to perform, when the frame of men is either placed erect or put in motion; shoes at best are a vast encumbrance in them; but when it happens that shoes are what is called a bad fit, then all goes wrong indeed, and corns and blisters soon oblige the wearer of them to "wend his way with faltering step and slow." When I see a man thus hobbling on, I condemn both his fortitude and folly; his fortitude is undergoing a pedal martyrdom without necessity; and his folly is wearing, for fashion's sake, a pair of shoes ill adapted to his feet in size and shape. Corns are the undoubted offspring of tight shoes; and tight shoes the proper punishers of human vanity. If the rules of society require that I should imprison my toes, it does not follow that I should voluntarily force them to the treadmill. The foot of man does not end in a point; its termination is nearly circular. Hence it is plain and obvious that a pointed shoe will have the effect of forcing the toes into so small a space, that one will lie over the other for want of room. By having always worn shoes suited to the form of my foot, I have now, at sixty-two, the full use of my toes, and this is invaluable to me in ascending trees. There is something very forbidding to my eye, in a foot with a pointed shoe on; I always fancy that I can see there, comfort and ease, and symmetry, all sacrificed at the tinsel shrine of fashion. Never be it forgotten, that tight shoes and tight garters are very successful agents in procuring cold feet; and that cold feet are no friends to a warm heart. The foot of man is formed in Nature's finest mould; custom causes us to conceal it, and necessity to defend it from the asperities of the flinty path; but we never can improve its original shape, or add any thing to its natural means, in the performance of its important task.—*Waterton's Essay on Natural History.*

American Agricultural Imports.

The farmers in the cheese manufacturing districts, are in a state of the greatest alarm at the recently immensely increased importation of American produce, but more particularly of that staple. The hay sent hither during the last season, was not of that prime quality to command an extensive and profitable sale, though at one period there was a scarcity of the article in consequence of the long drought, which was, however, corrected by a plentiful aftermath. The pork would be well received in England, if the English mode of cutting and packing were adopted. But in cheese, with an improved method of churning and making, an immense deal may be done. It has already superseded nearly all the quantities of that article formerly imported from Holland, and the efforts of the American population engaged in its production, should now be directed to a competition with Cheshire—the seat of England's finest sample of the article. The land owners and farmers of the adjacent counties have taken the alarm, and met to discuss the subject; but they are satisfied that there is not the slightest chance of their getting any additional duty imposed on American produce by the government, and their only hope of excluding it from the British market, is on the score of its inferiority; and in the circumstance that the factors have already begun to complain of its quality. We should recommend that more time should be taken in the manufacture of cheese in America, that a greater pressure should be applied to it, that they should be made of greater depth and less breadth than at present, that they should be packed in casks, separated by thin greased boards, and that the factors should be allowed 120 lbs. to the cwt., the Cheshire manufactures being about to give only 112 lbs.—*Liverpool Times.*

From the New York Farmer and Mechanic.

Sulphuric Acid as a Manure.

Hitherto we have used in France but three substances, which act immediately upon the vegetation of grass and leguminous crops—but their scarcity and dearness have prevented their general use. These substances are ashes, soot and plaster. A substance has been discovered for use in fertilizing pastures, which is easily managed and less expensive. We shall not attempt to explain the chemical and physiological theories as to its action on some plants. It is sufficient for us to call the attention of agriculturists to the results which appear to be important.

1st. Sulphuric acid—commonly called oil of vitriol—diluted in water in the proportion of one part acid and one thousand of water, stimulates in a very active manner all grasses and leguminous plants.

2nd. The use of sulphuric acid is much less expensive than that of plaster, for, with one quart of the acid, costing about 30 cents, you can sprinkle, when diluted, about one acre of ground—*demi hectare*—and to produce any effect with the plaster, 300 pounds would be necessary, costing about fifty cents a hundred. As to distributing it over the land there is much more facility than in distributing plaster, for it is easily done by means of a watering pot, or over large fields by a cask on a cart, having a sprinkler behind it, as in watering the streets; and it may be done as well in rainy as in dry weather, for it always acts with the same energy.

The use of sulphuric acid has long been known in agriculture. Mr. Yvart, Professor of the Alfort School, recommended it a number of years ago, and we can cite many cultivators who have strongly recommended its use. We recollect, among other experiments, one made by Brand, in Dordozne. A piece of clover was divided into three parts, one was left in its natural state, the other was sowed with plaster the usual way—the third was watered with sulphuric acid diluted, one to a thousand of water. No difference was perceptible between the plaster and the acid pieces, but both of them were very superior to the first, both in quality and quantity of clover raised.

This acid has been used in larger doses, but except where the soil was extremely poor, the proportions of one part of the acid to one thousand of water is about right.

The prices of the acid vary considerably; and one principal reason is, that is difficult of transportation, especially on wheels.

From the Revue Scientifique et Industrielle, of 1840.

Translated by H. Meigs.

American Institute, Dec. 6th, 1844.

Blessed will be the day, if come it ever should, when every man will learn that his own true prosperity is essentially concerned in the prosperity of his neighbour, and that no gratification on earth, to a good mind, is more delicious than that which is reflected from the happiness of another, to which he has been himself instrumental.—*H. Colman.*

Get justly, use soberly, distribute cheerfully, and live with an eye to the recompense of reward.

Difficulty in Churning Butter.

Mr. Cabinet,—Please to ask your folks, instead of writing so many things which we know already—and some we don't want to know—to turn their attention to the department of *female husbandry*, and instruct us a little in that.

In the days of our grand-dames—as many a legend tells us—when witches were almost as numerous as cats, and quite as mischievous—riding broomsticks on their errands of mischief—the good housewife frequently encountered the greatest difficulty from their malicious interference with her household affairs; unless her stable door and "that dear cot her home," were protected by the potent charm of an old horse-shoe, the horses manes and tails would be twisted into *cues*—the cows would either be sucked dry, or their milk turned to blood—or when churned would not make butter—her vinegar would not stay in the barrel, nor her soap in the tub—nor could she even supply its loss, unless she used the precaution to stir the soap pot with a ***sassafras*** stick, ***top down***. In those perilous times stern necessity devised many means to break the spell—to burn the witch, or to douse her into scalding water. But to us who are young, this is mere matter of history—fabulous history it would seem—for no sooner did the people cease their efforts to *keep the witches out*, than they made the discovery that there were none to *get in*—oh pshaw! I sat down to inquire about churning, and here is a homily on witchcraft.

It is a fact unfortunately too well known, that in small dairies of one or two cows—perhaps cows which have been milked for several months—there is often much difficulty experienced in churning the cream into butter, especially in cold weather—sometimes the cream is converted into a thick froth, and will not ***break;*** at other times the butter forms into small pellets resembling fish eggs, and will not *gather*. Now it is no trifle to have all the trouble and labour of gathering the cream, and churning a whole day—perhaps two or three of them—and have to eat your buckwheat cakes without butter at last. Formerly it was only necessary to expel the witch, and all was right; but now-a-days, there is no witch, and we don't know what to do.

One thinks her cow is too poor to churn for, and exchanges her for one no better. Another can't get butter because her cows are fed on turnips or pumpkins. A third condemns oats' straw as feed for cows—and who would not agree with her in that—and some think that even the oats themselves, ground either alone, or with corn, make inferior butter or none at all.

Now all this may, or may not be so. We think there is some difference in cows, and in cow-feed too; for we see a great difference between the milk of different cows, and of the same cows under different keeping. Still, as the complaint seems only to prevail in winter, we think that winter may have something to do with it—especially as our own cream will churn readily one week, and hardly at all another—cows and food the same.

Now what do your Cabinet folks say to this? you often talk about chemistry. Now can't you tell us what is the chemical process of converting cream into butter—what constitutes the difference between the two; and what are the essential conditions necessary to affect the change? Do tell us where the cream-pot should be kept in cold weather? How it should be stirred and managed? What put into it? How the churn should be prepared, &c., &c.

Do tell us all about it, and oblige a whole heap of

Young Wives.

It would afford the editor no small gratification, if he were able to remove a difficulty, which has from time immemorial, for aught we know, perplexed and annoyed, not only "heaps of Young Wives," but also any quantity of *old* ones, who had thought that in most matters they had cut their wisdom teeth. We must, however, leave this to wiser people, and hope some of our readers will be able to render assistance in the premises. There is an excellent article under the head of *Butter*, in the Farmer's Encyclopedia, which is too long for the Cabinet, and to which we can only refer. We can very well sympathise with those who are worried in this way, having many a time watched with no little chagrin, the prolonged and fruitless labours at the churn, for six or eight, or even twelve hours; and then, after all, if the *buckwheat cakes* were not eaten *dry*, they might as well have been, for the stuff that was produced when the butter did *come*, if indeed it came at all, was not worthy of the name of butter, and hardly that of decent *grease*. Perhaps there is no better plan for having good butter in winter, and little difficulty in the churning of it, than to feed the cows well with Indian meal and green food, as carrots, turnips, potatoes, &c., and to keep the milk or cream at a moderate temperature. A friend in Jersey, and by the way, an excellent housekeeper, remarked to us a few weeks ago, that she kept her milk and cream during the winter, altogether in a closet in the kitchen: thus at a constant temperature, from 55° to 65°, it readily soured, and she had no difficulty in *getting* her butter: and the quality of it, when she does *get* it, ourselves are particularly fond of testing. This plan of keeping the milk warm, is we believe, practised to a very considerable extent, by our large and nice dairy people on this side the Delaware. —Ed.

Food for different Latitudes.

From Fownes' Prize Essay on Chemistry, as exemplifying the Wisdom and Beneficence of God:

"We are accustomed to look with horror and disgust at the food of these poor people, as we in our ignorance and presumption dare to call them; to commiserate those who, as our northern navigators relate, prefer a piece of tallow-candle, or a draught of train-oil, to the fare of an English man-of-war; but a little more consideration might perhaps show us, that the blubber and fat of the arctic cetacea and fish, the only food the inhabitants of these countries can obtain, really constitute the only sort of food which could enable them to bear up against the extremities of cold to which they are subject. There is no other substance but fat, and that in very large quantity, which would answer the purpose required. It is a substance exceedingly rich in hydrogen, and in the body eminently combustible; weight for weight, it will generate a far larger amount of heat, when burned in the blood, than any thing else which can be taken as food. It will be wiser, then, instead of condemning, as filthy and abhorrent, the tastes and propensities of the Esquimaux, to consider them as a special adaptation, by an unspeakably benevolent Providence, of the very wishes and inclinations of the individual to the circumstances of his life.

"But this is not all: the same individual who, when in a warm or temperate climate, craves a large proportion of bread and vegetable food, and turns with aversion from fatty substances, experiences, when transported to the frozen regions of the north, a complete revolution in his tastes and desires. Nothing will then satisfy him but fat: the flesh of deer, fish, to be acceptable, must be loaded with fat; he takes delight in sucking the marrow from the bones; nothing in the shape of grease comes amiss to him; he longs for it, he desires it as much as he formerly loathed it. But this new, this induced state, only lasts as long as his mode of life requires; removal to a milder region restores, to a very great extent, the first condition."

Ornamental Shrubs and Flowers.

The cultivation of flowers, and shrubs, and vines, is a remarkable and prominent feature in the landscape of England; and a circumstance which has given no little gratification to my national pride, has been the profusion of American plants, azalias and kalmias, magnolias and rhododendrons, and a large variety of pines and firs, which are seen in the shrubberies and plantations, and pleasure grounds, both public and private. A very large establishment in London, is exclusively devoted to the sale of American plants; and they are everywhere admired for the splendor of their foliage and the beauty of their flowers. Green-houses and conservatories are almost universal in the country, where anything like a garden exists; and the better class of houses are surrounded and adorned with a great variety of flowering shrubs and plants, presenting, through the season, a charming succession of gay and brilliant ornaments. Even the labourer's humble cottage, too seldom, I am compelled to admit, anything but a picturesque object, will occasionally have its flowering shrubs adorning its doorway, and the ivy hanging its beautiful tresses over its window, forming, as it were, a mirror, set in a frame of the richest green. The village of Marr, in Yorkshire, not far from Doncaster, and the village of Edensor, in Derbyshire, near Chatsworth, and the village of Lord Brownlow, in Lincolnshire, the best built and by far the handsomest villages I have yet seen in England, to cottages of an excellent and picturesque construction, monuments of the liberality of their proprietors, add these beautiful rural embellishments of vines, and shrubs, and flowers, and at first blush compel a reflecting mind to admit the moral influence of such arrangements upon the character and manners of their inhabitants. Churches and ruins, likewise, are often seen spread over with the richest mantlings of ivy; and, among many others, the venerable and magnificent remains of Hardwicke Hall, for example, are covered, I may say, in the season of its flowering, with a gorgeous robe of it, matting its sides with indescribable luxuriance, climbing its lofty battlements and fringing its empty windows and broken arches, as though nature would make the pall of death exquisitely beautiful and splendid, that she might conceal the hideousness of decay, and shut from the sight of frail mortals these affecting monuments of the vanity of human grandeur and pride.

I have said and written a great deal to my countrymen about the cultivation of flowers, ornamental gardening, and rural embellishments; and I would read them a homily on the subject every day of every remaining year of my life, if I thought it would have the effect which I desire, of inducing them to make this matter of particular attention and care. When a man asks me what is the use of shrubs and flowers, my first impulse always is to look under his

hat and see the length of his ears. I am heartily sick of measuring everything by a standard of mere utility and profit; and as heartily do I pity the man who can see no good in life but in pecuniary gain, or in the mere animal indulgences of eating and drinking.

The establishment of horticultural societies in Salem, Boston, Worcester, New Haven, New York, and Philadelphia—and I speak of these societies in particular, because I have attended the exhibitions of most of them—has rendered an immense benefit to the country, not merely in the introduction of new and valuable fruits and vegetables, and in what they have done to improve and perfect the cultivation of those long known among us, but in the improvement of the public taste, and the powerful stimulus they have given to the cultivation of flowers and the formation of gardens and ornamental grounds throughout the country. Few countries in temperate latitudes, are richer in the floral kingdom of nature and the luxuriance of vegetable growth, and the splendors of vegetable beauty, than the United States. Why should they not be cultivated? Was the human eye, that wonder of wonders, that matchless organ of our physical constitution, that inexhaustible instrument of the most exalted and varied pleasures, made in vain? Are the forms of beauty in the natural world, so infinitely multiplied as they are around us, made for any other purpose than to be enjoyed; and what better means can we take to strengthen the domestic affections, of all others the most favourable to virtue, than to render our homes as beautiful and as attractive as possible? Who does not see constantly the influence of external circumstances upon character as well as comfort; and perceive how greatly order, exactness, and personal neatness contribute to form and strengthen the sense of moral exactness and propriety?

The horticultural establishments of England, their vegetable gardens, their flower gardens, their shrubberies and plantations, their green-houses and conservatories, are upon the most extensive scale; and I shall presently give a full account of some of the principal ones which I have had the pleasure of visiting.—*Colman's Ag. Tour.*

Method of Curing Obstinate Horses.

A few days ago, as a carter was proceeding in the York road, near Doncaster, with a load of stones, his horse made a sudden stop, and refused, even after an unmerciful whipping, to proceed. A gentleman told the infuriated carter he must not beat him any more. "What shall I do?" said the man, "my horse has stood here upwards of an hour: shall I stand here all day?" "Oh no; the horse must go, but you must not beat him any more. Get me a rope twice as long as the horse." The rope was obtained, secured to the horse's tail, and then passed between the legs forward, after which a slight pull was given. The animal was frightened, and showed strong symptoms of kicking, but the pulling was continued. Suddenly he started forward, and went off without any more beating. The gentleman said he had seen the same method tried, with a similar effect, on the most refractory asses ever bred. If this fact is disputed by those who have obstinate horses or asses, let them try the experiment.—*Western Farmer and Gardener.*

Hemp.

The St. Louis Price Current says: The production of hemp has increased more rapidly in Missouri, than that of any other article of commerce. Already it is one of the principal staples of this State, and we doubt not that in a few years it will equal the yield of Kentucky. The quantity imported into St. Louis, the past season, is 62,732 bales, or about 6,000 tons, at an average of 225 lbs. per bale. A large portion of this amount found its way to the Ohio river, in the early part of the spring and summer, being bought up here by the bale rope and bagging manufacturers of that section; and its consumption in the Eastern States, has more than doubled within the past two years. It is now being introduced into England, and when more attention is paid to its cleanliness and general condition, Great Britain will probably be a large consumer of Missouri hemp. We trust the effort made on the part of our own Government, to improve the quality of our hemp, will be attended with success, and that in a few years it will be brought into successful competition with Russia.

Total receipts past year	.....	62,732 bales.
" " 1843	.....	37,523 "

Alpaca Wool.—More than *two millions* of pounds of wool of this beautiful animal were imported into Great Britain in the year 1843, from Western South America. This fact alone shows the great importance of the animal, and the propriety of efforts to acclimate it in this country. Enlightened and patriotic individuals in England, have expended considerable sums for this purpose, with the brightest prospects of success.—*Western Farmer and Gardener.*

Disease in the Potatoe.

A COMMITTEE was ordered by the Philadelphia Agricultural Society some time since, to collect facts and materials for a Report on the disease of the potatoe now prevailing. As a part of their action, the following translation was made at their desire, of a paper on the subject, by Professor Von Martius, one of the most celebrated scientific men of Europe, and they now publish it as a part of the Report that they intend making at some future time.

The Potatoe epidemic of last year, or the rot and scab of the potatoe, described by Dr. C. F. Ph. v. Martius, Munich, 1842.

Certain diseases of the potatoe plant have been observed for more than eighty years.

Curl.—The *curl* has been observed in 1776–79, in the principality of Goettingen, and was described first in 1779. The so called, white table potatoe, was almost the only sort attacked at first. In 1780–90, the disease appeared frequently on the British Isles, where it is said to have been first observed in Ireland, whence it spread over England and Scotland. John Holt mentions two other diseases, as having appeared contemporaneously with the curl, viz: the cancer, which appeared, according to him, chiefly in wet seasons; and the scab, which appeared to be produced by dry seasons.

In Hanover, the curl was first observed by Thaer, in 1790, and in the beginning of this century it showed itself most destructively in Southern Prussia, since which time it has shown itself at different places in Germany; nowhere, however, to any great extent. Putsche, a monographer of the potatoe, gives the following description of the curl; the plants attacked by it look very poor; stem of a brownish green, or of a variegated colour, with rubiginous spots, penetrating into its pith; leaves rough, wrinkled, curled, shrunk, with short petioles, covered with spots, some of a light green, others of a yellowish green colour. The pith of the sick plants is often found rust-eaten, as it were, and parched. Early in the fall the plants turn yellow and perish. The few tubers found, are of a bad flavour, soapy and hardly eatable, leaving, when eaten, a feeling of scratching in the throat. The very skin of the tubers is different from that of the sound ones, its colour being partly brown, partly of a pale yellow, or often with both colours blended.

Experience has shown that certain varieties of potatoes are more liable to this disease, than others; that they are less exposed to it on mountains, than in the level country; that the round and oblong red varieties are more readily attacked by it than the white ones, and that this disease is propagated by the seed-potatoes, and does not disappear before the fourth or fifth generation, even when the plants are well taken care of.

Rust.—Another disease, which is mentioned as occurring contemporaneously with the curl, is compared by Putsche with the *rust* of the grain. According to his description, small rubiginous spots appear on the leaves of the sick potatoe plants, and spreading gradually further, cover finally the whole surface of the leaves. The perspiration of the leaves being impeded, the stems become parched and wither, or, where this latter does not take place, black nobs are developed in the tubers, which are harder and more stringy than the rest of their substance. The causes of this disease are unknown; it is often but of short duration, and is cured by a gentle rain.

Mr. Hampe mentions a disease of the potatoe under the same name of rust, where the tubers show spots of the colours of the rust, with excoriations here and there. This disease occurred in cold, wet summers, when fresh dung had been brought upon the soil.

Blue pox.—Another disease, called *blue pox* or *blue tumor*, not yet observed by Mr. Martius himself, has appeared in several parts of the kingdom of Saxony, and in the Upper Harz. According to Mr. Hampe's description, blue spots and risings are first observed on the skin of the tubers; afterwards a dark coloured texture, similar to a rhizomorpha—probably the forerunner of a mushroom—appears, which surrounds the tuber, penetrating even its interior, followed by blue spots and streaks in the heart of its substance.

It is said to be produced by an improper admixture of saw-dust and pine-straw, and other imperfectly decomposed organic substances with the dung. Very wet weather causes then the final outbreak of the disease.

Rot.—The disease which has lately committed so great ravages in the potatoe crops, seems to be the same that was described first in 1769, by Gleditsch, and may be called the *rot*. In Germany it has been called "rot of the stem," "fruit cancer," "rot, or gangrene of the tuber." This same disease seems to have prevailed in the Saxon Voigtland, in 1783, when the summer was very hot and very foggy. It was described in 1784, by Dr. Ackermann. In the present century it began to show itself first epidemically in 1830, in France and Germany; in the latter country, in Rhenish Bavaria, Northern Bohemia, Saxon Mountains, Erfurt, Anhalt,

Silesia and Meklenburg, and continued increasing in intensity, and spreading more and more, until it reached its height in 1840.

The *rot* may be designated by the dry and the moist rot, according to the degree of moisture either contained in the tuber, or acting from without, upon it. Symptoms of this disease are: the potatoes brought home to the cellar, and the seed potatoes when laid on the field get rapidly rotten, and the latter either rot before the leaves have sprouted, or they produce but small and scanty lateral tubers, closely attached to the seed potatoes, of the size of musket-bullets, which produce but very slender stems; or the plants that are grown from them, are but meagre and soon droop and wither. At any rate, but few small and weak tubers are produced. These, when but little exposed to moisture, appear dry and hard, of a consistency like that of truffles, and unable to produce any eyes; when brought into the ground, they soon rot by attracting the moisture from the ground. Fields that suffer much from this disease, look like stubble fields, where potatoes, left here and there from last harvest, have sprouted. The flowers show themselves very unequally on such plants, and but very seldom produce fruit.

The rot seems to have appeared principally in those parts of Germany, where a denser and more industrious population cultivate the potatoe in a more rational, but also more refined way, and chiefly where they raise their potatoes, not by laying whole tubers, but by cutting these into several slices.

Too great economy in planting the potatoe, seems therefore, to have an essential influence on producing this epidemical disease. The two forms of mushrooms that are observed most frequently in potatoes attacked by the rot, are set by Martius under the genus *Fusisporium*, and are called by him, *Fsp. Solani*, and *Fsp. sporotrichoides.*

Chemical analysis.—Dr. Andr. Buchner, jr., found on a chemical analysis of potatoes infected with the rot, which he made at the request of Dr. Martius, that no new substance had been formed in them; they contained a considerable quantity of amylum in cases where the moist rot had not shown itself, but only the dry one—and its quality was not altered; but the albumen had disappeared entirely, and the quantity of water, of which the sound potatoes contained 73.6 per cent., had been reduced in the diseased ones to less than the half, i. e., to 35.6 per cent. The fibrin in them was of a brownish colour, and in part already mouldy.

Scab.—There appears often at the same time with the rot, another disease less injurious, called the *Scab*, which occurs, however, also sporadically, from a great variety of external causes. As far as it is known to Martius, the scab produces but very rarely an entire alteration of the substance of the seed potatoes. It is distinguished from the rot, by its being merely a corruption of the cellular tissue, that lies immediately under the epidermis, followed by the generation of a mushroom, called by him, *Protomyces tuberum Solani*—and by the destruction of the epidermis. The rot on the contrary, infects the entire substance of the potatoe, and is an induration and a mouldiness of the tuber.

Sometimes also the tubers that are attacked by the scab, pass into a state of putrefaction, or produce but feeble stems, with fewer tubers, yet far less frequently than those attacked by the rot. Dr. Martius has not been able to determine, whether the scab and the rot occur together on one and the same field, or even on one and the same plant.

Causes of the rot.—There are both external and internal causes of the rot, of which the former regard, first, the preparation of the seed potatoes for laying, and the soil, wherein to plant them; second, the state of the weather; and third, insects wounding the plants. The internal or predisposing causes regard first, the peculiarities of the different sorts of potatoes; second, the manner of treating the plant on the field, and of treating the seed potatoes from harvest time to the time of planting them; and third, the way of laying the tubers, and of treating the plant till its maturity.

Soil.—The chemical composition and the degree of density of the soil, seem to have the greatest influence on the growth of the potatoe. In its native country, in Peru and Chili, it grows in cold mountain regions and in a stony soil that is rich in loam, but sufficiently loose. In Europe the sandy soil has been found the most convenient. The rot has been observed, however, on all kinds of soil, comparatively speaking; however, less frequently on a light, sandy, loose soil, rich in mould, than on a hard and heavy one. The scab of the potatoe, on the other hand, has been observed principally on lime soil. It is not so much, however, the original quality of the soil, as the particular way of preparing it, which seems to influence the rot, since it has been observed even on fields that were manured carefully, at the right time and with old dung, whilst other fields badly cultivated, or not manured at all, remained free from it and yielded even good crops.

Manure.—Most injurious seems to be the bringing the seed potatoes in immediate contact with the dung. Manure is best applied before the beginning of the winter season. Dung that is too fresh and too hot, is in general injurious.

Moisture.—With regard to moisture, stationary wetness is undoubtedly injurious. In its native country the potatoe is found thriving in a dry soil, which at certain seasons is strongly penetrated by moisture.

A rotation of crops appropriate to the locality, has been observed to be favourable to the productiveness of the potatoe.

Weather.—With regard to the weather as an external cause of the rot, we may conclude from all the reports that have come in, that most parts of Germany that have been ravaged by this epidemic, have rather suffered by too great dryness, than by too great moisture. A long continuance of dry weather in spring, proved very injurious to the sprouting of the seed potatoes in the Palatinate. On the lower Rhine, on the contrary, wetness was found to favour the breaking out of the rot; the same has been the case in the Harz mountains, and in Bohemia.

A very singular fact observed in several villages of the Palatinate, was that of potatoes, taken from one and the same cellar; all those laid in the morning sprouted, whilst all those laid in the afternoon failed.

Martius is opposed to the opinion of those who seek the cause of the rot, in insects laying their eggs on the potatoes, as but very rarely any eggs have been found on them. He is on the other hand not disinclined to side with those agriculturists, who believe that two different sorts of potatoes of very different degrees of acclimation, being planted aside of each other, the one less acclimated, will exert an injurious influence upon the other. In the year 1781, already several farmers ascribed the cause of the curl to the cultivation of the lately introduced *large American or New England hog potatoe*, the same probably as the *English cluster*, or perhaps also to that of the kindred *Howard*, or *large cattle potatoe*, in the neighbourhood of the *red potatoe* then generally cultivated.

Internal causes.—Martius has observed the rot attacking only the late sorts. In the Palatinate, the *gelbe* und *weisse Speise-Kartoffel*, i. e., yellow and white table potatoe, and among these, more those of a softer and proportionally more juicy texture, were chiefly attacked. In Saxony, Meklenburg, and elsewhere again, all sorts were attacked indifferently.

Points to be observed in the cultivation of the potatoe.—In cultivating the potatoe, we have to attend to the following points, when we wish to obtain a healthy crop. 1st. The seed potatoes are to be raised separately from those destined for food, since the growth of the eyes in the tubers takes place at the expense of the amylum contained in them. In gathering and bringing home the potatoes, they ought to be guarded from all unnecessary concussions.

2nd. In preserving them in cellars, they are to be kept from freezing, but so as not to prevent a free draught of air, since they begin to perspire soon after being brought in, chiefly in confined places, and continue to do so for four to six weeks, which perspiration, when not allowed to evaporate, occasions their decomposition.

3rd. Those tubers will prove the best for raising vigorous plants, whose eyes are yet quite short, but juicy; and where the tubers have just begun to spend a part of their nutritive matter in the formation of the eyes, which is recognized by a slight withering of them.

4th. Great care is necessary in propagating the potatoe by cuttings, as those whose eyes were wounded, have been found particularly liable to the rot. Chiefly the upper part of the tuber, lying opposite to its point of connexion with the plant, and having the greatest number of eyes, ought to be used for planting. The cuttings ought to be kept for eight days at a moderately warm place before planting them, or to be strewn with wood ashes or gypsum on the cut surface, in order to make them less accessible to the moisture of the soil.

5th. In laying the cuttings, care must be had to lay them with their eyes upwards. When, instead of entire tubers, cuttings only are laid, it is important whether the earth around them lies loosely or closely, and in what manner the ploughing is done. The rot has been in general less frequently observed, where instead of the plough the spade is used. With regard to the manure, Martius thinks it is best to cover the cuttings with earth, and then first to spread the dung over them in the furrows.

In the ore mountains of Saxony, the farmers have improved their potatoe crops in quantity, as well as in quality, by laying whole tubers, instead of cuttings, and preparing for every one of them a couch, as it were, of a handfull of dried leaves, or of chopped straw, and covering them afterwards with earth.

6th. It is necessary to heap up the earth around the stem of the potatoe plants, and

it will depend on the quality of the soil and the sort of potatoe used, to what height that is to be done.

7th. It is injurious to the growth of the tubers to cut off the leaves and to pluck off the flowers; the later the season is, at which the leaves are out, the more the future crop is diminished, as the plant will spend part of the substance accumulated in the tuber in forming new sprouts.

Rot, a contagious epidemic.—Martius considers the rot of the potatoe as an epidemical disease, being contagious under certain dispositions, and having its seat in the tuber, in which it produces a peculiar decomposition and destruction of its form, which at a certain stage of the disease, renders it unfit for self-preservation and propagation, and terminates with the production of a peculiar mushroom—*Fusisporium Solani.* Martius ascribes to the seed grains, or *sporules* of the latter, the capacity of infecting other tubers already predisposed to this disease, so as to produce in them the rot.

Fries, in his *Systema Micologicum*, and Unger, think the rot, as well as the ergot in the grain, to be produced by cosmic causes, and not to be contagious at all. Sinclair, Link, and De Candolle, on the other hand, think it contagious, and the last mentioned scholar believes that the seed grains of the smut—*Uredo*—come always from below, out of the ground, in which they lie in great numbers, into the plants which inhale them, together with the water through their radicles. This opinion corresponds with the previous observations of Knight, Tillet, and Tessier.

The *smut* can then only develope itself, when a diseased mixture of the juices has been prepared by unfavourable terrestrial and cosmical relations; as too fresh manure, sudden changes from cold to heat, or *vice versa*, great wetness, too early harvesting.

Experiments have been made concerning the contagiousness of the *Fusisporium Solani.* When its seed grains were sown upon slices of both diseased and healthy potatoes, the mushrooms developed themselves very rapidly within three weeks. When they were sown on the outside of a healthy thin-skinned potatoe, its epidermis became diseased, which might be seen by numerous round dry spots of one-twenty-fourth of an inch in diameter, and of a darker colour.

Preventive remedies.—Martius does not expect to see the rot cease entirely. In order to prevent contagion, the ground of places where infected potatoes have been kept, is to be strewn with pure dry sand or ashes, and in cases of strong infection, straw might be burned in the cellar, or the walls be whitewashed. The diseased potatoes themselves are not to be thrown upon the dunghill, but into the water, or to be buried. Seed potatoes that come from fields infected with the rot, before laying them, are to be slightly moistened, to be strewn with powdered lime and ashes, and to be turned with a shovel. Tubers that have not sprouted, may be laid for some hours in lime water.

The only remedy against the seed grains of the mushroom buried in the ground, is to raise in such a field as long as possible, other fruits, and when about to raise again potatoes in it, to mix the soil with gypsum, loam, lime, etc. *Preservatives* are: to select for raising, some good sort; to separate the seed potatoes from the very first from those destined for food; to sort the potatoes according to their size; to reject those apparently healthy, that show discoloured roundish tumors.

To secure the potatoes in the cellar from rot and scab, the cellar ought to be dry, and if possible, laid out with dry boards, and ought to have a sufficient draught of air; the floor to be strewn besides to the depth of some inches with sand mixed with ashes, coal dust, or fine iron filings. The potatoes ought to be well dried before laying them upon this. In heaps of more than four feet high, horizontal poles ought to be stuck in with dry brushwood round, to draw off the vapours arising from them and the potatoes to be laid upon the poles.

Extracted and translated by

HENRY SCHOLL.

For the Farmers' Cabinet.

Duty on Hops,

Paid by the farmers in England, who grow them.

TO THE EDITOR.—Every one knows that malt liquors of different qualities, constitute the chief beverage of both rich and poor in England, and the Government derives considerable revenue from the duty levied on the hops used in the brewing of them. Some years since it was ascertained, that immense quantities were made without the use of either hops or malt, and to caution my countrymen against the spurious articles, I thought it a duty to insert three papers in "The Medical Recorder," and "Medical Museum," of Philadelphia; in two of which I gave a list of the various drugs used in the brewing of the spurious liquor, taken from works published in London; and in the other, an official list of many persons convicted and fined for the offence. No impu-

tation was made against the eleven large breweries in London. A duty is also levied on malt, which a few years since was ten shillings and sixpence per quarter, of eight bushels. The enclosed official statement, I cut from a London newspaper. Let the American farmer read and reflect on it.

JAMES MEASE.

Philadelphia, December 19th, 1844.

An account of the duty on hops of the growth of the year 1843, distinguishing the districts, and the old from the new duty:

Districts.	*Duty.* £	*s.*	*d.*
Barnstaple - - -	17	14	5¼
Cambridge - - -	35	4	0½
Canterbury - -	60,108	0	5¾
Cornwall - - -	0	8	8¾
Derby - - - -	310	19	4¼
Dorset - - -	37	4	11½
Essex - - -	1,172	5	10¾
Gloucester - - -	1	5	0¾
Grantham - - -	85	18	10
Hants - -	5,184	17	8¾
Hereford - -	12,690	1	4¼
Hertford - - -	778	19	2¼
Isle of Wight	3,337	2	6¼
Lincoln - -	1,659	9	8½
Lynn - - -	44	11	10¼
Norwich - - -	1	11	6
Oxford - - -	107	15	3½
Reading - - -	51	3	4½
Rochester - -	73,870	0	2½
Salisbury - - -	70	19	5
Salop - - -	3	3	10½
Stourbridge - - -	294	6	7½
Suffolk - - -	914	10	10
Surrey - - -	5	11	5½
Sussex - -	81,445	11	0¾
Wales, Middle	22	8	11⅜
Wellington - - -	118	1	11½
Worcester - -	1,287	5	9¾
	243,656	14	5¾
Old duty, at 1 12-20d lb.	133,431	11	0¾
New duty, at ¾ 8-20d lb.	98,623	6	5¼
Additional duty of 5 per ct. per 3d Victoria, c. 17	11,601	16	11¾
Total,	243,656	14	5¾

G. A. COTTRELL, *Accountant-Gen'l.*

Excise-office, London. Nov. 14th, 1843.

HEAVY YIELD OF WHEAT.—James M. Underwood, of the town of Middlesex, in this county, cut 52 bushels and 56 pounds of wheat upon one acre of ground, selected from about 30, which he thinks will yield nearly the same amount.—*Pen. Yan. Demo.*

Silk.

THERE has been a large increase in the manufacture of silk in New England, within the last one or two years. Several new establishments have been started in that time, and old ones, that were prostrated by the mulberry speculation of 1839, have been resuscitated, and are now going on prosperously. These establishments are employed chiefly in making sewings and twist, and severally consume from 20 to 200 pounds raw silk weekly; amounting, in the aggregate, I should think, to twice or three times the quantity worked up one year ago. We found one new establishment just going into operation, at Mansfield, Conn., for the manufacture of cords, gimps, and other trimmings. The building is over 100 feet long, three stories high, and designed for a large business. Messrs. Dale and Denmead, are owners. All our New England factories purchase all the American raw silk they can get properly reeled, and pay higher for it than for the foreign article, and yet their chief dependence is upon foreign stock.

There are three silk factories now in regular operation at Northampton, and one at Dedham, Mass. Something is also done in this way at Woburn, Hingham and Foxborough.

In Mansfield, Conn., there are five or six establishments of the kind, though we could not visit all of them. In Manchester, Conn., the Messrs. Cheneys have, within a few months, revived their establishment, and are now making 200 pounds of sewings weekly. There is also a factory at Windsor, and another at Pogonock, near Hartford, Connecticut.

West of the mountains, the business is carried on very differently from what it is in New England. No foreign raw silk is used in any establishment. No sewing silk or twist of any consequence is made. The entire attention of manufacturers in that quarter is turned to plain and figured dress goods, serges, satins, velvets, ribbons, &c. I brought home with me some 70 different samples of such goods, from the richest figured velvet, down to the simple pongee—samples that will well bear comparison with the same kinds of goods made in England or France. The two leading establishments are Mr. Rapp's, at Economy, Pa., and Mr. Gill's, Mount Pleasant, Jefferson county, Ohio, both of which were got up under the superintendence of John Fox, senior, and Sons, practical manufacturers from England, and have gone steadily forward, enlarging their operation from time to time, and finding a profitable and ready sale for

their goods as fast as made. We found Mr. Gill building a new factory, 50 by 20 feet, three stories high, to be filled with power-looms for weaving plain pongees for printing. We could hear of no establishment at the West that had failed, or had been suspended, though many of them had suffered much from the want of more capital. We learned from Mr. Fox, at Mount Pleasant, that his sons, at Richmond, Indiana, were going on prosperously. We had similar intelligence from Nashville, Tennessee.

In regard to the production of raw silk, the West, especially the valley of the Ohio river and its tributaries, has gone ahead of New England. Much evidence on this point is given in our Report. Mr. Gill there gives it as his opinion, that the crop of the past season in that valley, is sufficient to keep 200 reels in operation through the year. This opinion he repeated to me in conversation. The very rapid increase in that region, and its relative gain upon the East, is to be accounted for as follows:

The mulberry speculation did not prevail at the West as in the Atlantic States, and of course about all the disastrous consequences growing out of that matter, fell upon the Atlantic States, where they belonged. Western lands are all rich, and mulberry trees, when put out, push forward at once, making a rapid growth of three to six feet by mid-summer. On the other hand, our eastern lands are exhausted, and our trees will do nothing without manure, any more than our corn and other crops. On this point many silk growers at the East have made a sad mistake, and laid the foundation for their own disappointment, and the discouragement of themselves and others. In this matter the West has precisely the same advantages over the East, in the silk business, as in other agricultural pursuits, and no more. Western farmers do every thing on a larger scale than we do in the East, and they are carrying this characteristic spirit into the silk culture. Their summers also, are some two or three weeks longer than ours, though not better in any other respects. I think, therefore, that the West and Southwest will take the lead in the growth of silk, just as they now do in corn, and most other agricultural products, and for the same reasons. I am not a prophet, nor the son of a prophet; but I venture the prediction, that in thirty to fifty years, the valley of the Mississippi will control the silk markets of the country and of the world.—*Silk Growers' Magazine.*

PRESERVE self-possession, and do not be talked out of conviction.

Hemp.

HEMP was, until these last few years, scarcely cultivated any where except in Kentucky, and nearly the whole production was devoted to the manufacture of cotton bagging and bale rope. It was not, we believe, used, or even tested in the manufacture of ships' cordage, which is the great source of consumption, and for the supply of which our country has long been dependent upon Russia. Our import of hemp amounted in 1839, to $607,766; in 1840, to $686,777; in 1841, to $609,201; in 1842, to $267,849; and in nine months in 1843, to $228,882.

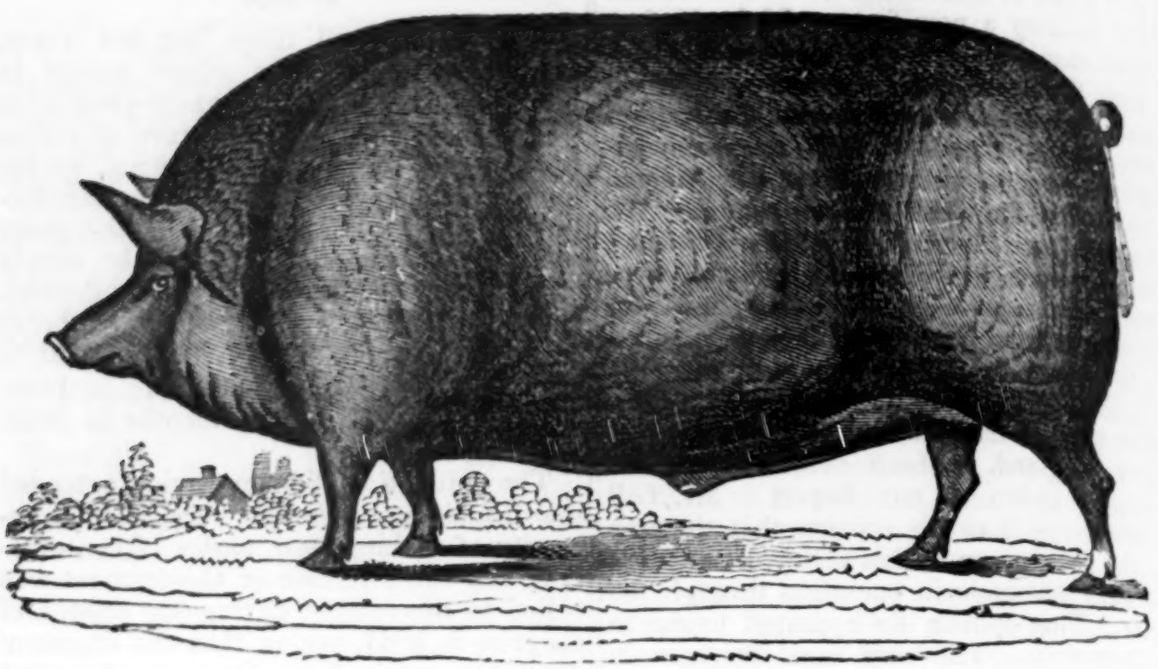
The cultivation of hemp having extended into Illinois and Missouri, occasioned a necessity of seeking new modes of consumption, and the attention of Government was called to the subject during the session of congress in 1841, asking that the fitness of American grown hemp for use in the naval service, might be fairly tested. The result of various experiments has, we are told, been highly favourable, and we hope that the day is not far distant, when American grown hemp will not only supersede the use of Russian in our own marine, but find also a ready market in Europe.

The following statement of hemp received at New Orleans, may help to show the rapid increase of the cultivation of this important article; in 1841 and 1842, the entire receipts at New Orleans, were only 1,211 bales; in 1842 and 1843, they rose to 15,000 bales; and in 1843 and 1844, they reached 38,000 bales, or about 5,000 tons—the increase being almost exclusively from Illinois and Missouri.

In the census of 1840, the return was made of hemp and flax together, and the agricultural statistics published by the Patent Office, are made in the same manner; so that they afford no information as to hemp alone.—*National Intelligencer.*

WE learn from the papers, that two vessels have not long since been freighted at New Orleans, with *Hemp*, one for Hull, the other for Havre. Thus the hopes of the *Intelligencer* have been realized much earlier than was probably anticipated. A few years ago, the shipment of hemp to Europe, in large quantities, was perhaps as little looked for, as was still further back, the exportation of cotton goods to India.—ED.

IN 1792, the whole cotton crop of the country was only 138,328 lbs.; in 1795, it was 6,276,300 lbs.; and in 1842, it was 783,221,800 lbs.! About two-thirds of this immense quantity goes to Europe—the other third being used here.



BERKSHIRE HOG.

The above is a far better likeness of our Pennsylvania and Jersey *Berkshires*, than that which is found in our fifth volume, taken from Professor Low's celebrated *Illustrations of the breeds of Domestic Animals of the British Islands.* It is indeed a representation of a noble grunter; a gentlemanly and portly sample of the breed. The hog has the credit of being "a creature of gross habits and unclean tastes:" but really to our eye, the engraving above conveys the idea of a cleanly and sensitive fellow, that would feel himself scandalized at even the mention of a mud-puddle, but would enjoy with true epicurean zest, a score of years of corn, or a dish of well scalded mush.

Low says, "the hog is subject to remarkable changes of form and character, according to the situations in which he is placed. When these characters assume a certain degree of permanence, a breed or variety is formed; and there is none of the domestic animals which more easily receive the characters we desire to impress upon them. This arises from its rapid powers of increase, and the constancy with which the characters of the parents are reproduced in the progeny. There is no kind of live stock that can be so easily improved by the breeder, and so quickly rendered suited to the purposes required; and the same characters of external form, indicate in the hog a disposition to arrive at early maturity of muscle and fat as in the ox and sheep." The principal breeds of England have been usually named after the particular counties or localities where they have been, for the most part, reared. The *Berkshire* was one of the earliest improved of the English breeds, and it is now the most widely distributed, as it is the most superior, says the Farmers' Encyclopedia, of the numerous varieties in England: it has a disposition to fatten quickly, and the pork and bacon are said to be very superior. This breed has widely spread over the United States, and is certainly a grand improvement upon the "land sharks"—the long legs and long faces which are still occasionally to be met with among the natives. It never seemed to us that the hog was made for *jumping;* and every farmer who is troubled with this propensity in his porkers, may at once conclude that his breed, or his corn-crib, or both are at fault, and the sooner he inquires among his neighbours for the real *Berkshire*, the better.

The wild boar, which was probably the progenitor of all the European varieties, and also of the Chinese breed, was formerly a native of the British Islands, and very common in the forests until the time of the civil wars in England.

The hog family includes several species—and of these it is said that the true hog was not indigenous to America, but was brought over by the early adventurers from the old world: no domestic animal is now more generally spread throughout the country, and none, probably, does so much to satisfy our meat-eating population.

For the Farmers' Cabinet.

Capons.

Mr. Editor,—The subject of caponing is one of interest to the community. By the usual process many fowls are killed by the operation; and but few of our farmers are found either able or willing to practice it. I desire to communicate to you a plan unaccompanied with danger or uncertainty, even to the unskilful. A keen knife, a pair of scissors and a needle, are the only instruments required. As soon as the young cock begins to crow, commence fattening him. When his comb becomes blood red, keep him from food for twenty-four hours. Then catch him and tie him down on to a board, by fastening his wings with straps drawn through holes made in the board for that purpose. His feet may be left loose, or if preferred, may be made fast to two uprights fixed in the board. With scissors cut away the feathers from below the anus; then make an incision as near to the anus as can be done without cutting the rectum—let it follow the side bones until the hole thus made is large enough to insert the fingers: push them along down the back bone, until the testicles are felt. Then put the finger over the testicle, and by bearing at its base, pull it off: serve the other in the same way. A little practice will enable the operator to bring the testicles out on his finger. But this is of no importance: break them loose, and if you do not get them out, being certain that you have removed them, let them remain. They will soon become absorbed, and give no trouble. Sew up the incision, being careful to take up the inner skin. Turn the fowl loose after marking him, and he will do well. This plan has been tried with success for years, and is as safe as any man could desire. One of the proprietors of one of the Virginia springs, always has on hand a supply of capons made in this way.

I intend to try the operation upon turkies. Why will it not succeed in improving that favourite about "Christmas time," as well as the chicken? I will let you know the result, if it prove successful.

Thomas P. Hunt.

Wyoming, Pa., Jan. 27th, 1845.

Cast-steel Ploughs.

A cast-iron plough will no more scour, or clear itself, in most of our prairie soils, than the end of a chesnut rail drawn endwise. A few are in use, constructed of wrought-iron; but this is generally too soft a material, as it is easily scratched, and the least scratch on the mould-board catches the earth and clogs the implement. Our best ploughs, then, are made of the best of *cast-steel*—that is, every part of them which touches the earth, including mould-board, land-side, and point: and these are polished as bright as a razor before use, and must be kept so to perform the required work. An eastern plough may be made of as good or better timber, as handsomely fashioned, or more so—but have you any polished cast-steel ploughs in Maine, friend Farmer? If yea, we have done.—*Prairie Farmer.*

Butter.—The committee on butter, of the Worcester Agricultural Society, in their report says:

"Good butter bespeaks first a good cow, and a good cow a good pasture, and both together imply an intelligent farmer; and not less requisite is a good churner, and for a good churner give us a good farmer's daughter, who never looks more blooming and bright than after the healthful exercise at the churn. No occupation is more befitting, none more honourable. No accomplishment should be more acceptable to the young husbandman, seeking a partner, than that the woman of his choice be well qualified to take the charge of his dairy, and excel in the difficult art of making *good* butter."

Beautiful Experiment with a Plant.—The Brooklyn News gives the following interesting bit of information:—"Cut a small branch of Oleander from a thrifty plant, place it in a vial partly filled with rain water, so that the lower end of the branch may be immersed about half an inch in water. Place this in the sun in an open room, and in about fifteen or twenty days, small roots will shoot out from the end of the branch, presenting a beautiful appearance. After these roots have extended to three inches, the branch may be set out in moist earth, and if frequently watered, it will grow rapidly and soon form a large thrifty stock. Ladies who are fond of flowers, may easily propagate Oleanders in this manner, and in a very few months multiply these beautiful plants to an indefinite extent.—*Southern Agriculturist.*

I recollect, in passing through a part of Derbyshire, in a region which I was told afterwards was, from the contiguity of several large estates, called the "Dukeries," the coachman, by whose side I was seated, said to me, that this was the Duke of Devonshire's village; and this the Duke of Rutland's; and this the Duke of Norfolk's; and so on: and I could not help asking myself, with some sinking of heart, where is the people's own village?—*Colman's Tour.*

Barley.

Barley delights in any deep loam or other soil not of a tenacious character, in deep gravels, and in light sands; but, in order to secure good crops, a tolerable state of fertility is essential. The light sands in which it may be grown, should not be *very* dry. Depth and *friability* of soil, as well as moderate moisture, are necessary prerequisites to its vigorous growth and the successful fructification of its seed. It succeeds best after plough and hoe crops, as it luxuriates in a cleanly culture; prospers most in the absence of weeds, and should therefore never be grown on stubble. Stiff clays or wet soils of any kind, are not adapted to its culture. Deep ploughing and thorough pulverization of the soil are indispensable to insure good returns; and in order to make assurance doubly sure, after the seed is sown the ground should be rolled; but if it be not convenient to roll at the time of sowing, this operation may be performed after the plants are up, and from two to three inches high. This latter process might be advantageously performed, whether the ground were rolled or not at the time of sowing.

The best time for sowing is as soon in the spring, as, from the absence of frost, the ground can be got ready. The ground should be measurably dry when sown.

As to the *quantity of seed*, if the ground be in good heart, naturally rich, or improved by manuring, six pecks to the acre will be enough. If the ground be poor, two bushels will not be too much. Fresh manure that is undecomposed, or long manure, never should be applied *immediately* to the crop, as it has the tendency to make it run into straw. Lime, marl, ashes, or thorough rotted manure, may be applied at the time of seeding, the three first being preferable.

The *preparation of the seed* is best effected by being soaked twenty-four hours in a solution of the liquid of horse-dung and saltpetre, made as follows: Put as much horse-dung into a hogshead as will fill it about one-third; then fill the hogshead with water. After letting it stand a day, draw it off, and to every eight gallons of the liquid add two pounds of salt-petre. In this soak your seed the time above named. Then drain the matter off, roll your seed in plaster or lime, and sow before it dries: and, as fast as your lands are sown, harrow in both lengthwise and crosswise. After the whole may be sown, it should be rolled as above directed. This steep insures an early germination of the seed, imparts a vigorous growth to the young plants, and enables them to overcome weeds.

In England the average is computed at thirty bushels to the acre, though from sixty to eighty, under peculiarly favourable circumstances of soil and season, have been grown. In this country, as high as seventy bushels have been raised on an acre, and then again as low as ten.

We wish it to be borne in mind, that barley must be reaped before it is ripe, as otherwise a vast amount is lost by shattering.—*Louisville Weekly Journal.*

For the Farmers' Cabinet.

Facilities for Transportation.

To the Editor,—Many of us remember when fears were not unfrequently expressed that the multiplication of rail-roads, canals, &c., would bring our distant farming lands so nearly within reach of the Atlantic cities, that the value of farms in the vicinity of those cities, would be very seriously and injuriously affected. These fears, however, have not been realized. The value of lands in the neighbourhood of the large seaboard towns, has kept continually increasing, as have also those of the interior. To those at a distance, who send their produce to market, we can hardly estimate the importance of good roads, or the advantages of rail-roads and canals. To the farmer who puts his produce—his wheat, for instance, or his pork, or potatoes, on his own wagon, and brings it to market, a very small piece of bad road may add materially to the expense; for it should be recollected, that of whatever length his road may be, and however level and hard it may be in its general character, he can only bring to market such load as he can draw over the worst part of it. Even live stock is frequently brought a great distance on our rail-roads,—the expense of this mode of transportation being more than counterbalanced by the gain in time, &c. As an illustration of this, I take the following statement from a late English paper: "David Martin, of Wainfleet, sent five sheep to London, to walk the whole distance on the road, and killed five others at home. The two lots were of exactly equal weight—858 lbs.—when alive. The carcases were weighed when dead, when it was found that the sheep which had walked to London, weighed 435 lbs., and their loose fat 60 lbs.; while the five killed at home, reached 489 lbs., their loose fat weighing 74½ lbs. The total difference of weight amounted to 68½ lbs., or 14 per cent. of the original weight of mutton, and this was evidently the loss of meat occasioned by compelling the five sheep to walk from Lincoln-

shire to London." We might instance the mutual advantage to town and country, of the ease with which milk is brought from a great distance into both Boston and New York, but this and other cases will readily occur to the reader. N. P.

From the American Agriculturist.

Dogs and Cats.

I SUFFER great loss in two kinds of stock here, which, if not of as great value as Durham cattle, are yet even more indispensably useful—I mean in *dogs and cats!* During the two years and a half that I have resided here, we have not been able to keep a single cat; they have all died in convulsions, and all in the same singular manner. They are attacked with violent shivering, seem in great agony, mewing and struggling, each fit becoming more and more violent, until they die. Can you or any of your correspondents give us the cause and remedy.* I have been told that *bleeding*, by cutting off a piece of the tail each time they have a fit, will ultimately cure them. I am now trying it, *economizing the tail* as much as possible, that it may get a fair trial. So far the kittens have recovered, when thus treated. Some other cure would be preferable, as a *bobtailed* cat is rather an unsightly object. Still, better even a bobtailed one than none.

I have also lost several valuable dogs within the past year, in somewhat the same way. Two of those I lost were *very valuable* terriers. They begin by going about as if in pain, and evidently not thriving. In a few days they commence with a sharp, keen, constantly reiterated bark, which they keep up, day and night, concealing themselves in some dark corner for a week or so, when they die. Others have dropped down, when apparently in good health, in a violent convulsive fit, having one fit after another, in rapid succession, until they die. I meet with no loss of this kind, that grieves and annoys me so much as that of a favourite dog, and would be glad to hear of some cure or preventive.

THOMAS AFFLECK.

Washington, Miss., October, 1844.

* We cannot tell the cause of this disease, unless it be an overeating of rats or animal food, but the remedy we have generally found successful, was, to administer pretty strong doses of warm catmint tea. As a preventive, we supply our cats with all the milk they will drink and what vegetable food they will eat, such as bread, potatoes, &c. We also occasionally give them a dish of fresh fish, well cooked, of which they are extremely fond. All animals should have a variety of food when possible to obtain it.—*Ed. Am. Ag.*

From the Farmers' Journal.

Advantage of planting Fruit Trees on declivities.

DODART first observed that trees pushed their branches in a direction parallel to the surface of the earth. If a tree stands on a steep it pushes both towards the hill and towards the declivity; but on both sides it still preserves its branches parallel to the surface. As there is an attraction between the upper surface of leaves and light, I am also persuaded, though not equally certain of it from experiment, that there is an attraction of the same nature between the under surface of leaves and the surface of the earth. This I consider the true cause of the phenomenon;—I had long observed that the most fruitful orchards and most fertile trees are those planted on a declivity, and the steeper it is, though not quite a precipice, the more fertile they prove. It is well known that the spreading of trees always renders them fruitful. On a plain they incline to shoot upwards; and therefore art is employed by skilful gardeners, and applied in various ways, to check their perpendicular, and to promote their lateral growth. But this point is obtained on a declivity by nature. There a tree loses its tendency to shoot upwards, and in order to preserve its branches parallel with the surface, is constrained to put them in a lateral direction. Hence an important rule in the choice of orchards and fruit gardens.

D. J. WALKER.

ARTIFICIAL GUANO.—A recipe was lately presented to the New York Farmers' Club, by Dr. Valentine, for the formation of an artificial guano, that would not cost more than one-fifth of the imported, and equally effective. The following are the ingredients:

Nitrate of soda,	20 lbs.
Sal-ammoniac,	10 "
Carbonate of ammonia,	5 "
Pearl-ash,	5 "
Sulphate of soda,	8 "
Sulphate of magnesia,	5 "
Fine bone,	60 "
Salt,	10 "
Sulphate of lime,	2 bushels.
Meadow mud, or street manure,	1 cartload
Carbonate of iron,	2 drachms
Manganese,	2 "

THE old proverb says, "Make hay when the sun shines;" but there is something else besides sunshine necessary to make good hay. The grass must be cut when it is mature, or the animals that have to eat it will have a hard bargain.

Poudrette.

To T. B. Wakeman, Esq., for the N. Y. Farmers' Club:—

Dear Sir,—In reply to your circular of the 1st instant, I send you the following practical facts in relation to concentrated manures—a subject which is now commanding very general attention. I have selected these reports from distant parts of the country, that it may be seen that their effects are alike beneficial on different soils, and in somewhat different climates. The first statement is an extract from a letter written by *Augustus Shriver, Esq.*, of Carroll county, Md., dated Nov. 22nd, 1844, to the editor of the American Farmer, and is as follows:

"I received the Poudrette which you ordered for me too late to apply it to my corn in the hill, which mode of application I am satisfied would be the most advantageous; I therefore mixed it with an equal quantity of ashes and a little plaster, and when the corn was cleverly up, applied about a gill to each hill, leaving twelve rows in the field to which I gave the same quantity of ashes and plaster *alone*, as has heretofore been my custom. The corn all grew finely, and there was no perceptible difference in that on which the Poudrette had been applied, until the month of July, when we experienced a very severe drought, lasting about six weeks, when the part dressed with ashes and plaster alone, suffered somewhat, and 'fired' a little; but the ballance, on which I put the Poudrette, held its own admirably, and did not 'fire' a single blade, and looked flourishing, and filled finely. I candidly believe that the Poudrette, though so small a quantity, increased the yield at least *ten* per cent. I am so well pleased with this small experiment, that I will go into it on a large scale next season."

The next report is from Mr. Floyd Howell, residing in the county of Onondaga, seventeen miles south of Syracuse, in this State; to whom nineteen barrels, or seventy-six bushels, were sent late in November, 1843; upon which a freight of $1 37 per barrel, was charged, which increased its cost to $2 87 *a barrel*, on the farm. In reply to inquiries made in relation to its effects, the following answer is given, viz:

"We took five acres of wheat stubble, which we supposed would yield, *without any manure*, from 35 to 40 bushels of corn to the acre; ploughed and harrowed it once, the forepart of May—then marked it in rows about four feet a part, but owing to the cold weather, did not plant until about the 16th of the month, when we dropped a handful of Poudrette in each *hill*, or 14 barrels to the five acres—then planted the corn upon it. After it came up, and *before the first hoeing*, we put four barrels more upon about *one half* of the field. The corn was hoed three times, and was ready to harvest a little earlier than our neighbours; but we could not perceive any *material* difference between that part of the field where the four barrels were applied as a top-dressing, and the part where it was applied *only in the hill*. There was no other manure used than the Poudrette. *The average* yield upon the five acres, was 80 bushels to the acre; but from one acre selected, we gathered 99 bushels and 18 lbs. The freight on the 40 barrels sent by you this year, will not exceed what was paid last year,—$26 on 19 barrels—owing to its having been shipped near the close of navigation."

From this it will be seen that, by the use of 18 barrels, or 72 bushels of Poudrette on the five acres, the yield was increased from 35 or bushels, to 80 bushels per acre, or over 200 bushels on the field.

Mr. Robert Henry, of Cranberry, N. J., says, under date of Dec. 27th, 1844, that—

"For the last four or five years I have used Poudrette with uniform success on corn, and find it to answer on that crop better than *any other manure* that I use. The corn, where it is used, is generally of a better colour, and comes to maturity earlier than where other manure is used. My mode of applying it is in the hill; the ground being previously prepared, with about 40 or 50 bushels of lime to the acre. This is the only way in which I have used it; and last season the corn was on a dry soil, and although the season was also dry, the crop of corn was good where Poudrette was used. I consider it a cheap and profitable manure."

Mr. James Hay, of West Chester county, N. Y., made the following statement to me in relation to its application to potatoes. He says:

"I planted (No. 1.) about one acre of potatoes, with Nova Scotia seed, the last of May. The ground was manured with horse manure the fall previous, and the potatoes planted in drills, with coal ashes. The growth was luxuriant, and bid fair to yield a heavy crop, but they were apparently struck with disease or blight about the middle of July, as though there had been a frost, and the vines gradually died. They were dug the latter part of August, and were in size from a shot to a middling sized potatoe;

and the skin could be easily slipped off between the thumb and finger, and the potatoes were of little value.

"On the first of June I planted (No. 2.) another acre of potatoes, with *poudrette* in the drill—32 bushels to the acre. The vines were not as flourishing as where the horse manure was used, nor was the effect of the blight or frost as visible, though they were evidently affected by the same cause. They were dug about the middle of September, and the yield was 150 bushels of uniform size, though small, perfectly sound and free from disease. They were of the *Mercer* kind, and the seed was raised about ten miles distant, in Westchester county.

"The same seed (No 3.) planted at the same time on rich ground, with stable manure, made large vines, but the potatoes were very irregular in size, and nearly half rotten. These were not dug until the first of October. None of the potatoes here spoken of, *except those raised with poudrette*, were considered fit for family use.

"For early potatoes, he planted the *Mercer* of his own raising; about the last of March manured them with horse dung, and got a fair yield of good sound potatoes.

"On corn the result was as in former years, and when planted one or two weeks later, the corn was fit to harvest a fortnight earlier than that of his neighbours, who used stable manure."

Mr. Peter Hall, of Norwalk, Con., informs me, that he "used Poudrette in the fall of 1842, with barn-yard manure, on a field of wheat. The result was extraordinary—yielding *thirty-two and a half* bushels, weighing over 64 lbs. per bushel, to the acre. He also used it on corn the past year, 32 bushels, or eight barrels per acre. Part of it was put in the hill at planting, and the ballance was spread on the surface previous to the second hoeing. The corn was planted a week later than his neighbours planted theirs, and was fit to harvest nearly two weeks earlier; and it was believed from the appearance that the produce was greater than upon any other field in the neighbourhood. On potatoes also, its effects were remarked by every one who saw them. Those manured with poudrette, could be distinguished from those treated with stable manure, as they passed along the road, and on digging them, very few, if any, were found diseased."

Your obedient servant, D. K. Minor.

New York, Jan. 21st, 1845.

The above statements have been communicated for the Cabinet, and we cheerfully give them a place. It is, perhaps, unnecessary to remark that the Poudrette referred to above, was procured of D. K. Minor, and was prepared at his establishment in New York. The manufactory in this city also belongs to him, and is under his supervision; and the editor entirely believes that all reliance may be placed in a proper preparation of the material. We were unable, last spring, as many who were disappointed will remember, to supply the wants of our farmers: and a very brisk demand, when the season opens, is again anticipated. The reports of those who got the article at this office last spring, are almost without exception, favourable to its use. Of that put on wheat in the fall, we cannot, of course, give any account as yet. Those who wish the Poudrette—and we would like all to give it a trial, either soon, as a top-dressing on their wheat, or at corn planting—will please call on the editor, at No. 50, North Fourth street, or forward the money, when their orders will be just as carefully attended to, as if themselves were on the spot. For prices, see advertisement on the last page of the Cabinet.—Ed.

The Poor.

In a country where labour is superabundant, and the price of land places it utterly beyond the reach of those who have no means to purchase, but from the scanty products of their own manual labour, the condition of the labourer is that of absolute dependance. In a condition of society where artificial ranks and classes exist, and where all the wealth and all the power are in the possession of the upper, or, as they are sometimes denominated, the favoured classes, the barriers which hem in the lowest class—without property, without power, without education, without even a home which they can call their own—are, of course, impassable. In a country where labour is scarce, where land is cheap and free, and where the advantages of a good education are offered gratuitously to all—where no arbitrary distinctions of rank exist, and every man by the force of his own talents and character, may occupy that condition in society to which he chooses to aspire, it is obvious how different is the situation of the labouring portion.—*Colman's Agricultural Tour, part* 1.

Orchards.—A writer in the Western Cultivator, published at Indianapolis, Ind., says, if it is worth your while to have fruit, it is worth your while to have the best. It is therefore better to buy at the nurseries, or to bud your own trees. He also advises that the ground of a young apple orchard be kept in cultivation for six or eight years, and that the grass be not suffered to grow around the roots. Another writer in the same paper says, that an orchard of neglected trees may be renovated by ploughing the ground, scraping the moss from the body and limbs, and thoroughly washing the whole trunk with urine and soft soap.

Bones,—Whip-Handles,—Ivory Black,—Hoofs,—Prussian Blue,—Offal, &c.

This is a motly heading, but is exactly adapted to what we have to say. A few days since we took a ramble up Deer creek. We were not walking for pleasure, although the atmosphere that encompassed us was *fragrant* with —— that we will tell by and by. We hope the word will not be driven from the English vocabulary by this too free use of it. The creek shore, above Ninth street, is measurably lined, and in one instance, we believe, covered by slaughter-houses,—some devoted to disposing of hogs, and others of cattle,—tanneries, bone-mill, grease trying establishments, and similar odoriferous vocations; and in the winter season the stream should be known as Bloody run, for such it literally is, its colour being nearly scarlet. A brewery adds its mite, as well as a steam lard and tallow manufactory, to the general aggregate of which the creek is the depository.

But however undesirable is the brink of this murmuring stream, the vale through which it runs is nevertheless a fountain of wealth. Among the establishments there is one which is a common receiver of nearly all the offal of the city slaughter-houses. From it is turned out an immense amount of grease and inferior lard. A large proportion of the daily market beef-legs and shanks are purchased by the proprietor, and after the marrow and grease are extracted, the bones are sold for the various purposes of button-making, whip-handle finishing, the manufacture of China-ware, or porcelain, and also ivory black. Of the latter, large quantities are used in the manufacture of shoe-blacking; and a mill in this noted vale is expressly appropriated to the grinding of bone, pith of horns, &c., for the manufacture of black.

Of the small bone used for black and porcelain, this house ships to foreign ports, mostly Europe, about 400,000 lbs. per year; and of the large bone, which are principally used for the ferrules and butts of whip stocks, and the manufacture of buttons, about 130,000 pieces. These quantities are exclusive of the amount consumed here, which is very considerable, particularly of the former kind. A few years ago, nothing of the kind was done here, and, as far as bone was concerned, was entirely a waste. The prices here, are: for the small, $16 per ton. A large contract closes with 1844, for export to Europe, at that rate, packages included; and for the latter, $10 per 1000 pieces. The price last year was $8.

Soap grease is the great staple of this Vesuvius, very large quantities of which are shipped to the Eastern cities. Forty thousand dollars worth was mentioned to us as the value of what is at this time on sale in New York alone. The prices here now are: four cents for No. 1, and three and a half for No. 2.

One of the other articles made to a great extent, is Neats' foot oil, from the nether legs and hoof. This sells by wholesale at 62 to 75 cents per gallon.

Another is sausage skins, with which not only our own market is supplied, but shipments are constantly making to the South and East. They sell here at $10 per keg—size, the common lard keg.

Hog's bristles are another thing prepared by this and other houses, or house in the city, and of this article large shipments are also made, both of the combed and tied, used by saddlers, shoemakers, &c., and of the curled. The former kind sells at 30 to 35 cents per lb. The curled are used for the same purposes to which curled hair is applied—mattrasses, cushioned chairs, sofa, &c. Who ever thought of reposing on a pig's back!

One other thing we learned in this, our evening ramble, was, that we have with us a manufactory of Prussian Blue. The stock from which it is made is cattle's hoofs, and plucks, and the blood of hogs and cattle. The hoofs command $16 per ton. The manufacturer is a German. It is but a year or eighteen months since he commenced operations, and cannot be said to be fairly under way, but has sufficiently tested the experiment clearly to demonstrate the practicability of successfully competing with the foreign article, both as to quality and price, and expects in a few years to be able to consume a very large proportion of the blood to be obtained here.

We were also told of an instance of a foreign demand for blood. The facts we have stated are a few instances of the economy with which science is capable of making us acquainted, and of the value of the skill by which it can be effected. Shall we cultivate the arts and sciences, and encourage skill and enterprise in our country!—*Cincinnati Chronicle.*

"Cotton was grown to a small extent in the United States, nearly two hundred years ago; but it was not extensively introduced till many years after. In 1786, James Madison, writing to a friend, says, 'There is no reason to doubt that the United States will, one day, become a great cotton producing country.'"

On the Cultivation of Lettuce, so as to produce successive Crops the year through.

By J. W. Russell, Newton, Mass.

As lettuce is more or less used in every family, the mode of obtaining it in the greatest perfection, throughout the year, in regular succession, may not be unacceptable to a portion of your readers.

Lettuce is grown in considerable quantities for the market, and fine heads may be obtained nearly the winter through; in the months of December and January, owing to our severe weather, it cannot be grown as large as it can in the climate of England, without too much care and expense; but later, when hot-beds do not suffer from extreme frost, it may be had in the greatest perfection. Notwithstanding lettuce may be found in the market of such excellence, few individuals, except market gardeners, understand its cultivation during the winter, and on this account many gentlemen are deprived of this desirable vegetable during that season, when it adds so much to the luxury of the table.

The following remarks are the results of several years cultivation of lettuce, both for private use and for the market; and if the directions are carefully followed, others may be equally successful.

Selection of sorts.—There are a few leading points to be strictly adhered to, and which ought not to be overlooked, if lettuce of a superior quality is the object of the cultivator. The Tennisball, Royal Cape, and Green Curled Silesia, are probably the best for spring use; the Imperial (true) is the most worthy of the cultivator's trouble, in order to have a good supply through the summer; and the Green Cabbage, or hardy Hammersmith, for the winter crop. It is of the greatest importance to obtain the seed *true* to the name, and not hybridized; what makes the careful selection of the seed of so much consequence is, that all the care and labour bestowed on the culture of the plants, if raised from spurious seed, approach very nearly to labour lost. It is well known, although not so universally as could be wished, that a great portion of the varieties enumerated in catalogues, are not worth growing in this climate; the Cos lettuce, so much cultivated in England, and deservedly so, is rarely ever seen in our markets; in fact, all the hybrid varieties, raised from the Cos and Cabbage lettuces, being intermixed, will not generally be such as would give satisfaction in this country, and more especially if the variety partakes most of the Cos parent. Observe, therefore, to procure choice seed of *responsible* seedsmen.

Compost for the plants.—A light, rich, friable soil, and old hot-bed manure,—or manure that is as near as can be of the same nature,—well blended together, will ensure success; for framing, the compost should be an equal quantity of manure and earth; this is the secret of obtaining fine lettuce; for wherever extra fine lettuce is found, extra culture produced it. For open air culture, the ground, however rich it may be in appearance, if not by the recent application of manure, ought to have a bountiful dressing, which should be dug in about three inches below the surface; but before this the ground should have been in fine condition, either by deep ploughing or digging; the reason why the manure should not be buried deeper than proposed is, that the roots may take hold of it at once, and that the plants may make a rapid and luxuriant growth.

Sowing the seed.—To have a regular succession throughout the year, several sowings will be necessary. The first, or spring crop, should be planted from the 15th of February to the 1st of March; the second, or summer crop, during April; and successive sowings in June and August. For the last, or winter crop, the 15th to the 30th of September, is the proper period. The seeds generally appear the fourth or fifth day, and the first transplanting should take place ten or twelve days subsequent to their appearance.

Cultivation of the Spring Crop.—Early in February prepare a small hot-bed, unless one is already made up for cucumbers, and the seed of the Tennisball, or Royal Cape, may be planted in flower-pots or boxes. It must be borne in mind that only a moderate heat is required for starting the plants from seed. Six inches from the glass is a proper distance for the young plants; give all the light possible through the day, and air every day that the weather will admit of it; the frame must be well secured from frost, which would destroy the plants, and it should be covered every night as long as the cold freezing weather lasts. The plants will require to be twice transplanted—first, from the seed-pots or boxes, about three inches apart each way, in order to become strong, healthy plants, for their final removal to the beds where they are to remain. This may appear to those persons not already acquainted with the process, to be superfluous; however, it is the only way to succeed. The final transplanting out into frames, should take place as soon as the plants are ready,—if the Tennisball and

Royal Cape, or Silesia, about nine inches apart each way, will be found to be a proper distance. Regular attendance to the watering, giving air every favourable opportunity, and covering over the frames every night in season, is all that is necessary to ensure fine early lettuce.

Cultivation in the open air.—Early in April, seeds of the Tennisball should be again sown, and the plants will be ready by the middle of May to transplant. It will be necessary at this season to allow about fifteen inches between the rows, in order to admit the Dutch hoe, or scuffle, to advantage, which should be frequently used. The Imperial should succeed the crop of Tennisball and Silesia, and the first of May the plants will be in readiness. Continue to plant as before advised, every month or six weeks, from early spring to autumn, and select a cool situation for the late summer crops.

Cultivation of the Winter Crop.—This is the sowing requiring the most attention, and which is to supply the table from January to March. Select a warm situation in the open ground, and manure the bed well, and dig it deep; make the surface level and smooth with a fine rake, and it is then ready for the seed. The Hardy Hammersmith is the variety to sow now; draw the drills three inches apart, and cover the seeds lightly. In a few days they will be up and grow rapidly—and in October they should be transplanted into beds, where they are to be protected from frost. These should be common hot-bed frames; and as soon as the nights become cool the ashes should be put on, removing them early every fair day. On the approach of severe cold secure the plants from the effects of frost in season, for freezing and thawing would nearly destroy the whole. Very little water will be needed, unless there should be a continuance of fine weather till Christmas, when they will require moderate waterings. Give all the light and air possible, and keep the plants clean and free from damp, by picking off all decayed leaves as soon as perceived.

In December the plants will be very strong and stocky, and ready for removal to hot-beds, or pits in the green-house, where, with the ordinary treatment, they will soon form fine large heads. From time to time, as a succession is wanted, the plants can be transplanted from frames to heat, until the season arrives for the sowing of the spring crop.—*Magazine of Horticulture.*

If thou intendest to borrow anything a second time, use it well the first, and speedily return it.

American Ploughs in England.

We wonder that our cotemporaries should so worry themselves about the reported failure of the working of American ploughs in England. Have not the English ploughs always equally failed in their working in the United States, with an American ploughman at the end of the handles? The truth is, that the ploughs of the two nations are of so entirely different construction, that an Englishman with his prejudices, and without any previous practice, is totally unfit to handle an American plough; and so is an American, an English plough. Had a thoroughbred Yankee been at the handles of the American implement, at the late trial before the Royal Agricultural Society, at Southampton, the result would unquestionably have been in its favour; for we know from repeated personal observation, made in both countries, that the American plough will do more work with less draught than any English plough whatever; and that it is upon the whole better fitted to our purposes of ploughing round stumps and rocks, or on uneven ground, and among stone and gravel, than anything from abroad. But in level, smooth land, we think it has some defects; the principal of which are a want of proper lever purchase in the handle, and a miserably contrived clevis.

When plough-handles are placed in so upright a position as is usual with us, the ploughman has not a proper control over his implement, and it makes it hard work for him to handle it in the furrow; besides, it is continually bobbing up and down; running alternately deep and shallow; and in and out, instead of moving easily, steadily, and smoothly along. This defect has been pretty well remedied by Ruggles, Nourse, and Mason, and some others; they having adopted nearly the happy medium between, we think, the extreme length of the Scotch plough-handles, and the short ones of America, and added a wheel upon the beam to gauge the depth of ploughing, and make the draught easier. The second defect, the clevis, we suppose has been thus long submitted to, because more simple and cheaper made—we ought to say infinitely *dearer* in the end. To our mind, the Scotch clevis is the most perfect of any we have yet seen. It looks bungling, and seems to abound in *useless machinery;* but let any one use it on his plough a single season, and pay any attention to its working, and he will after that never have any other, we will be bound to say. As to the make of ploughs, they must be of different sizes and forms to suit different purposes; and this idea of offering

a single premium for the *best* plough, is perfectly ridiculous; it is like trying a race-horse, a roadster, and a cart-horse, together; or pitting a Merino, a Leicester, or a South-down sheep against each other. Each is valuable for particular purposes, and we know from considerable practice, and much personal observation, that different soils—for instance, from heavy clay through the several gradations to shifting sand, and the different state again of these soils—whether in green sward or naked fallow, or to turn in a stubble and green crop, at least six kinds of ploughs are requisite to perform their work properly.—*American Agriculturist.*

Animal Heat.

The source of animal heat, its laws, and the influence it exerts upon the functions of the animal body, constitute a curious and highly interesting subject.

All living creatures, whose existence depends upon the absorption of oxygen, possess within themselves a source of heat, independent of surrounding objects.

This general truth applies to all animals, and extends to the seed of plants in the act of germination, to flower-buds when developing, and fruits during their maturation.

In the animal body, heat is produced only in those parts to which arterial blood, and with it the oxygen absorbed in respiration, are conveyed. Hair, wool, and feathers receive no arterial blood, and therefore in them no heat is developed. The combination of a combustible substance with oxygen is, under all circumstances, the only source of animal heat. In whatever way carbon may combine with oxygen, the act of combination is accompanied by the disengagement of heat. It is indiffent whether this combination takes place rapidly or slowly, at a high or at a low temperature; the amount of heat liberated is a constant quantity.

The carbon of the food being converted into carbonic acid within the body, must give out exactly as much heat as if it had been directly burnt in oxygen gas or in common air; the only difference is, the production of the heat is diffused over unequal times. In oxygen gas the combustion of carbon is rapid, and the heat intense; in atmospheric air it burns slower and for a longer time, the temperature being lower; in the animal body the combination is still more gradual, and the heat is lower in proportion.

It is obvious that the amount of heat liberated must increase or diminish with the quantity of oxygen introduced in equal times by respiration. Those animals, therefore, which respire frequently, and consequently consume much oxygen, possess a higher temperature than others, which, with a body of equal size to be heated, take into the system less oxygen. The temperature of a child (102°) is higher than that of an adult, (99.5°.) That of birds (104° to 105.4°) is higher than that of quadrupeds (98.5° to 100.4°) or than that of fishes or amphibia, whose proper temperature is from 2.7° to 3.6° higher than that of the medium in which they live. All animals, strictly speaking, are warm-blooded; but in those only which possess lungs, is the temperature of the body quite independent of the surrounding medium.

The most trustworthy observations prove that in all climates, in the temperate zones, as well as at the equator or the poles, the temperature of the body in man, and in what are commonly called warm-blooded animals, is invariably the same; yet how different are the circumstances under which they live!

The animal body is a heated mass, which bears the same relation to surrounding objects as any other heated mass. It receives heat when the surrounding objects are hotter, it loses heat when they are colder than itself.

We know that the rapidity of cooling increases with the difference between the temperature of the heated body and that of the surrounding medium; that is, the colder the surrounding medium, the shorter the time required for the cooling of the heated body.

How unequal, then, must be the loss of heat in a man at Palermo, where the external temperature is nearly equal to that of the body, and in the polar regions, where the external temperature is from 70 to 90 degrees lower!

Yet, notwithstanding this extremely unequal loss of heat, experience has shown that the blood of the inhabitant of the arctic circle has a temperature as high as that of the native of the south, who lives in so different a medium.

This fact, when its true significance is perceived, proves that the heat given off to the surrounding medium, is restored within the body with great rapidity. This compensation must consequently take place more rapidly in winter than in summer, at the pole than at the equator.

Now, in different climates the quantity of oxygen introduced into the system by respiration, as has been already shown, varies according to the temperature of the exter-

nal air; the quantity of inspired oxygen increases with the loss of heat by external cooling, and the quantity of carbon or hydrogen necessary to combine with this oxygen must be increased in the same ratio.

It is evident that the supply of the heat lost by cooling, is effected by the mutual action of the elements of the food and the inspired oxygen, which combine together. To make use of a familiar, but not on that account a less just illustration, the animal body acts, in this respect, as a furnace, which we supply with fuel. It signifies nothing what intermediate forms food may assume, what changes it may undergo in the body, the last change is uniformly the conversion of its carbon into carbonic acid, and of its hydrogen into water. The unassimilated nitrogen of the food, along with the unburned or unoxidized carbon, is expelled in the urine or in the solid excrements. In order to keep up in the furnace a constant temperature, we must vary the supply of fuel according to the external temperature, that is, according to the supply of oxygen.

In the animal body the food is the fuel; with a proper supply of oxygen we obtain the heat given out during its oxidation or combustion. In winter, when we take exercise in a cold atmosphere, and when, consequently, the amount of inspired oxygen increases, the necessity for food containing carbon and hydrogen increases in the same ratio; and by gratifying the appetite thus excited, we obtain the most efficient protection against the most piercing cold. A starving man is soon frozen to death. The animals of prey in the arctic regions, as every one knows, far exceed in voracity those of the torrid zone.—*Liebig's Letters.*

(To be continued.)

Bees Swarming.

Bees when swarming, are generally peaceable, and if treated gently, may be hived without danger or difficulty. A remarkable instance of their inoffensivness at this time is related by Mr. Thorley. Wanting to dislodge a swarm from the branches of a codlin tree, he placed the hive in the hands of his maid-servant, who being a novice, covered her head and shoulders with a cloth to guard her face; on shaking the tree, most of the bees alighted on the cloth, and quickly crept under it, covering the girl's breast and neck up to her very chin. Mr. Thorley impressed her with the importance of neither flinching from nor buffeting the bees, and began immediately to search for the queen; which on finding, he gently seized and removed, but without effecting a dislodgement of the swarm: thus disappointed, he suspected that there was a second queen, which actually proved to be the case. On securing and placing her in the hive, with a portion of the bees, the rest followed in multitudes, till in two or three minutes not one bee remained upon the girl, who was thus released from her state of apprehension and alarm without feeling the point of a single sting.

The following is extracted from M. Lombard: "A young girl of my acquaintance was greatly afraid of bees, but was completely cured of her fear by the following incident. A swarm having come off, I observed the queen alight by herself at a little distance from the apiary. I immediately called my little friend that I might show her the queen; she wished to see her more nearly, so after having caused her to put on her gloves, I gave the queen into her hand. We were in an instant surrounded by the whole bees of the swarm. In this emergency I encouraged the girl to be steady, bidding her be silent and fear nothing, and remaining myself close by her; I then made her stretch out her right hand, which held the queen, and covered her head and shoulders with a very thin handkerchief. The swarm soon fixed on her hand and hung from it, as from the branch of a tree. The little girl was delighted above measure at the novel sight, and so entirely freed from all fear, that she bade me uncover her face. The spectators were charmed with the interesting spectacle. At length I brought a hive, and shaking the swarm from the child's hand, it was lodged in safety, and without inflicting a single wound."

All persons similarly situated, may not be so fortunate, as, notwithstanding the greatest precaution, bees may be provoked to draw their swords. Dr. Evans relates a case of this kind: a swarm having settled on the branch of a larch-tree, and its long tufts of narrow leaves flapping the bees as the bough was shaken, the woman who hived them received above thirty stings.

If the weather be windy at the time of swarming, they are often irritable, and apt to sting; and though clustered, will frequently return home: this last occurrence is generally caused by the absence of a queen, but it may also be produced by a sudden shower, or the transit of a dark cloud. In these cases the swarming is merely deferred.

A queen has sometimes a defect in her wings, or is disabled by some accident: either of these misfortunes may cause the return of a swarm, or produce symptoms of discontent after hiving. Should such symp-

toms be observed, the queen will probably be discovered on the ground, or somewhere apart, surrounded by a small cluster of attendants, whom nothing but violence can separate from her. If she be taken up either singly or with the cluster, and placed near the entrance of the hive containing the swarm, all will be harmony.

Sometimes a swarm divides into two portions, which settle apart from each other; should this happen with an after swarm, it may be presumed that each portion has a distinct leader. The conduct of the apiarian in this case, must be governed by the size of the two divisions, and the season at which they emerge; unless both be large and the swarming early, they had better be hived in separate boxes, and joined together in the manner recommended in page 61. If near enough together, they may be hived in the same box.

The branch on which the swarm settled is sometimes rubbed with wormwood, or smoked with disagreeable fumes, to drive away all remaining loiterers. The readiest and simplest mode of procedure, however, is to keep up a constant agitation of the bough by means of a long hooked pole, till the whole or nearly the whole of the bees have forsaken it.

No attempt should ever be made to introduce a swarm into a hive or box till the cluster is nearly settled, nor should the hiving be long delayed, lest the bees rise and fly to a distance.

The general practice is not to remove bees to their intended station till night, but Bonner and Mr. Golding recommend their removal as soon as the swarm seems to be pretty well settled; and I am of the opinion that this plan is judicious, as the bees of a *full* swarm begin to explore the fields soon after hiving, and it is on that account desirable that their earliest proceedings should be associated with the spot upon which all their future operations are to be conducted; it will prevent that puzzling and impediment to their labours which are apt to be produced, by delaying the removal till night. Let the newly-tenanted hive therefore be placed as soon as possible upon a floor-board, and at once removed to the site which it is intended to occupy. Should any sufficient reason prevent the adoption of this early removal, let it be placed as near the intended site as convenient, and unless it stand in the shade, be covered with boughs or a cloth.

Notwithstanding what I have said as to the early location of a swarm, there are still some intelligent apiarians who prefer the ancient practice of deferring the removal till night; Mr. Knight stands in this class, and says he does not believe that bees ever have any difficulty in finding their way from the fields to their new habitation, provided it be fixed before the next morning, and he considers late removal as securing the congregation of all stragglers.—*Bevan on the Bee.*

THE FARMERS' CABINET,

AND

AMERICAN HERD-BOOK.

PHILADELPHIA, SECOND MONTH, 1845.

SOME unknown friend has forwarded the Albany Argus of the 22nd ult., containing an account of the Annual Meeting held in that city, of the New York State Agricultural Society, on the 15th.

It appears from the statement of the Treasurer, that the receipts for the year 1844, were $4,865,80, and the expenditures $3,933,91. Benjamin P. Johnson, of Oneida, was unanimously elected President; Daniel Lee, of Erie, Corresponding Secretary; Luther Tucker, of Albany, Recording Secretary; and Thomas Hillhouse, of the same place, Treasurer. Eight Vice-presidents were also chosen. Utica was proposed as a proper location for the next State Fair and Cattle Show; a committee of the citizens of that town having offered to prepare the grounds, &c., so as to be ready for the occupancy of the Society, and to furnish such police officers and clerks, as may be requisite for transacting the business of the Fair and Cattle Show, without expense to the State Agricultural Society. The reports of the various committees possessed their usual interest—some account of those on crops we give here.

The first premium for wheat, was awarded to Matthew Watson, of Canandaigua, he having raised 215 bushels of wheat on four acres and twelve poles of ground, or about fifty-two and a half bushels per acre. No first premium on corn was awarded, but the second was given to J. F. Osborn, of Cayuga county—his crop being 213½ bushels on two acres. Several premiums were awarded for *Barley* and *Oats*. The first for barley, to Stephen B. Dudley, of Ontario county, for a crop of sixty-nine and nine-tenths bushels, on a lot of two acres. The first premium for oats, was given to Seth Lawton, of Dutchess county, his crop being 120½ bushels per acre—and the second to J. F. Osborn, for 104 bushels per acre, on a lot of two acres and nine rods. John G. Smedberg, of Greene co., raised 1,160 bushels of ruta-baga on one acre, and 2,173 bushels on two acres and five rods. William Risley raised 1,059 bushels of carrots, and C. B. Meek, 1,101 bushels of mangel wurtzel, per acre. The first premium for butter, was awarded to George Vail, of Troy. His cows are the Durhams. Six of them kept on grass, produced in thirty days, 262 lbs. 9 ounces of butter—averaging for each cow better than 1 lb. 6 ounces per day. The milk of one of these cows was kept by itself for thirty days, and yielded in that time 52 lbs. 9 ounces of butter. The committee awarded to Henry S. Randall, of

Cortland, a gold medal, for the best managed flock of sheep. His statement in relation to his treatment of this flock, is, we think, well calculated to excite the attention of wool growers. He says:

"In the winter of 1843-4, I wintered in a separate flock, fifty-one ewes over one year old, two ewe lambs, two rams, one of them one, and one of them two years old. Of the ewes over one year old, twenty-eight were full blood Merinos; twenty-three were half blood Merinos and half blood Southdown, the two ewe lambs were three-fourth blood Merino and one-fourth blood Southdown; and the two rams were full blood Merinos. The flock was kept as follows, through the winter. They were fed hay morning and night, and were as a general rule required to eat it up clean. At noon the flock was daily fed three bundles of oats and barley—which had grown mixed, say three parts oats and one part barley—until the 25th of December, after which they received four bundles of oats. The grain was light and shrunken. They received no hay at noon during the winter, and usually consumed all the straw of the grain fed to them. They had a good shelter and access to pure water at all times. From this flock I raised fifty-three lambs. The full blood Merinos, including two rams, and the two three-fourths blood lambs—in all thirty two—sheared one hundred and eighty-six pounds and four ounces of washed wool, which I sold at forty-eight cents per pound. Four of the full bloods had two years' fleeces on. The half-blood Merinos and half-blood Southdowns—twenty-three—sheared eighty and one-half pounds of washed wool, seventy-one pounds of which I sold at thirty-eight cents per pound. During the summer of 1844, the flock was kept in good ordinary pasture, and salted once a week. Out of this flock I have sold during the past summer and fall, ten full blood Merinos over one year old, and twenty full blood Merino lambs for five hundred and twenty-nine dollars—and twenty-three half-blood Merino and half-blood Southdown ewes, and sixteen three-fourth blood Merino and one-fourth blood Southdown lambs, for one hundred and ninety-seven dollars.

Expense of keeping 55 sheep one year		$32 50
Received for wool, estimating that kept at the same price with that sold	$119 99	
Received for those sold	726 00	
		$845 99

Remaining on hand, thirty nine of this flock.

I have submitted no estimate of the original value of the flock, not deeming it necessary, as the diminution of the orignal number is here stated."

The annual Address was delivered at an adjourned meeting in the evening, by John P. Beekman, the late President. And we doubt not the day and the labours of the meeting closed with an increased interest in the progress of agriculture in New York.

In our last number, page 198, will be found a notice of some inquiries relative to the Cranberry plant. M. S. Powell, No. 23 Market street, informs us that he can supply any demand, and can also give the necessary instruction for their cultivation.

The disease in the potatoe, which so extensively prevailed through this section of country in 1843, and in the New England States in 1844, has very properly claimed the attention of many of our observant men. On page 102, of the current volume of the Cabinet, will be found a notice of the appointment of a committee, by the Philadelphia Agricultural Society, upon this subject. The translation furnished by that committee on page 212, will be read with much interest. Professor Von Martius has given close attention to the disease as it appeared in Germany, and certainly makes in relation to it, many judicious remarks.

The *Farmers' Monthly Visitor* mentions a hog recently slaughtered in Pittsfield, N. H., which weighed when dressed, 705 lbs. It was nineteen months and sixteen days old, and consequently had gained in neat weight, about one pound and three ounces per day.

The following premiums will be awarded by the Pennsylvania Horticultural Society, at its stated meeting on the 18th inst., to wit:

For the best regularly shaped Camellias, six named varieties to be exhibited, $10.

For the next best do. do. $5.

For the best Camellias of other forms, do. do. $7.

For the best Mushrooms, one dozen to be exhibited, $2.

And at the stated meeting on the 18th of next month, the following will be awarded:

For the best Azaleas, ten named varieties to be exhibited, $3.

For the next best do. do. $2.

For the best American seedling Azalea, $3.

For the best Pears, half a peck, $3.

For the best Apples, half a peck, $1.

We keep on hand at this office, and will supply our friends with Agricultural works generally. Among which are

THE FARMER'S ENCYCLOPEDIA, full-bound in leather;—Price	$4 00
YOUATT ON THE HORSE, with J. S. Skinner's very valuable Additions;	2 00
BRIDGEMAN'S GARDENER'S ASSISTANT;	2 00
THE AMERICAN POULTRY BOOK;	37½
THE FARMER'S LAND MEASURER;	37½
DANA'S MUCK MANUAL;	60
Complete sets of the FARMERS' CABINET, half-bound, 8 vols.	6 50
DOWNING'S Landscape Gardening,	3 50
DARLINGTON'S Flora Cestrica,	3 00
RELIQUIÆ BALDWINIANÆ,	1 00
AMERICAN Poulterer's Companion,	1 25
BEVAN on the HONEY BEE,	31¼
BUISTS' ROSE MANUAL,	75
SKINNER'S CATTLE DOCTOR,	50
AMERICAN FARRIER,	50
THE FARMER'S MINE,	75
JOHNSTON'S Agricultural Chemistry,	2 25
HANNAM'S Economy of Waste Manures,	25
LIEBIG'S AGRICULTURAL CHEMISTRY,	25
" ANIMAL CHEMISTRY,	25
" FAMILIAR LETTERS,	12½

As well as his larger works on Chemistry and Agriculture.

Subscriptions will be received for Colman's Agricultural Tour in England and on the Continent.

☞ We are prepared to bind books to order.

The first number of the JOURNAL OF PRISON DISCIPLINE AND PHILANTHROPY, published under the direction of the *Philadelphia Society for the Alleviation of the miseries of public Prisons*, has recently made its appearance. It will be a quarterly of 96 pages octavo, and the subscription price $2 per annum, payable in advance.

The subject matter of which this Journal will treat, is pretty well designated by its title. It will not, by any means, be confined to the economy of our prisons, strictly so called, but matters relating to our Houses of Refuge and Insane Hospitals, Police systems, Societies for the aid of discharged prisoners, and other reforms connected with these subjects will find a place, and we trust, be treated in a manner to advance the general good.

As these are all subjects of the broadest interest, we shall be pleased, as must, we think, every philanthropist, to find this interest manifested in a liberal support of the work. All the Society wishes is, that the receipts may meet the expenditures. Circulating, as the Cabinet does, in every State and territory in the Union, we embrace this method to bring the subject before our intelligent readers. It is published from the office of the Farmers' Cabinet, where subscriptions will be received. Money transmitted from a distance to Josiah Tatum, No. 50 N. Fourth street, Philadelphia, kindly franked by the post-master, will ensure the prompt return of the work as published.

In the third number of our current volume, will be found a communication from C. J. Fell & Brother, in relation to a purchase of Mustard seed from J. H. Parmlee, of Ohio. Since the appearance of that article, we are in the frequent receipt of letters, particularly from the West, having reference to the cultivation of the plant. This opportunity is embraced to remark that we have no personal experience in the matter, or we would gladly communicate it for the benefit of all. Some of our letters mention that the writers are preparing to put in twenty or thirty acres, and inquire about the price which may probably be obtained for the product. It scarcely need be said, that the price of Mustard seed is like every other article in the market, variable, according to the supply and the demand. Brown Mustard seed for several years, has ranged, as we learn, from six to ten cents, and the demand has, perhaps, generally exceeded the supply: but if farmers take hold of it so extensively as to plant, many of them five and twenty or thirty acres, it needs but little penetration to perceive that the matter will be overdone, and the whole thing prove a failure.

C. J. Fell & Brother, advise us that Mustard is of two kinds, the brown or black, and the yellow or white: the former, a smaller seed, and generally called *American*—the latter a larger seed, and denominated *English*. They say the seed grown by Parmlee, differs much from any American seed they had ever before purchased. It is of superior quality, and they would recommend it to be sown in preference to the seed usually grown at the West, which appears to be the product of spontaneous growth, and is small with a thick hull, while Parmlee's is larger and stronger. They have reserved some of this seed, and we believe will furnish it to such as wish to propagate it, at eight cents per lb. A cannister of Mustard of beautiful colour, prepared from Parmlee's seed, was kindly handed us by the manufacturers, and those at our table, better judges than the editor, pronounce it an exceedingly fine article.

A PACKAGE of various kinds of seed, has been received from H. L. Ellsworth, the indefatigable Commissioner of Patents, at Washington. They shall be properly distributed.

☞ IN our last number, and in the one preceding it, we forwarded bills to many of our subscribers who were in arrears. To the large number who have promptly responded to those bills, we offer our acknowledgments. It should be borne in mind, that our terms are—payable in advance. By many this seems to be forgotten. Bills are forwarded in this number, to neighbourhoods where they have not yet been sent this season. It is always more agreeable—to say nothing of the greater convenience—when our subscribers are so prompt as to need no dun. Attention is particularly invited to all bills that have been sent; and we would remind those concerned, that Post-masters are at liberty by law, to frank remittances to publishers in payment of subscriptions, as well as to receive new subscribers and remit payment. Our friends are invited to avail themselves of this mode of settling our numerous little demands. The expenses of the Cabinet are necessarily heavy, and continual. It is only asked of each of our subscribers, promptly to bear his *small* part in their payment, and to do all he can in adding to the number on our subscription list. It gives the editor much pleasure to avail himself of this opportunity to acknowledge his strong obligations to the kindness and courtesy of the Post-masters of the country, from Canada to Florida, and from New Jersey to the Cherokee Nation. He respectfully solicits a continuance of this kindness.

Two or three numbers have reached us of the *Ohio Cultivator*, published semi-monthly at Columbus, Ohio, by our worthy friend, M. B. Bateham, late editor of the Genesee Farmer. The numbers before us give every promise that the work will be as we should certainly expect it to be, highly important and advantageous to the Western agriculturist. It appears in large quarto form, at $1 a year. It is almost impossible that a farmer should look over the columns of that paper for a year—or those of the Cabinet either, without being abundantly more than compensated for the outlay of his money. We shall be rejoiced to learn that one half the farmers of the great West, have subscribed for the Ohio Cultivator; and still more pleased would we be to find the names of the other half on our own subscription book. Were this the case, we think they would soon very generally find they could not get along at all comfortably without having both these papers. We already send many packages of the FARMERS' CABINET to the West, and would ask our numerous friends there to assist us in adding still further to the list.

THE *Jeffersonian*, published at West Chester, in this State, says Emmor Jefferies recently slaughtered three hogs nine months and ten days old, which respectively weighed 357, 330, and 329 lbs.

PHILADELPHIA SEED STORE,

No. 23 MARKET STREET.

M. S. Powell keeps a constant supply of Clover and other Grass Seeds. Field Seeds, consisting of prime Seed wheat, Buckwheat, Millet, Oats, Corn, Rye, &c.

☞ GARDEN AND BIRD SEEDS generally.

July 15th, 1844. tf.

PHILADELPHIA AGRICULTURAL, HORTICULTURAL, AND SEED WAREHOUSE.

No. 194½ Market street, between Fifth and Sixth streets, South side.

For sale as above, Prouty & Mears' Patent Centre Draught Self-sharpening Ploughs, with all the new improvements attached. These ploughs have taken nine premiums the last fall, in the States of Pennsylvania and Delaware. Subsoil ploughs for one or two horses—Taylor's new Patent Straw-cutters—Guillotine Improved do.—Corn-Planters—Cultivators—Harrows; Turnip-Drills, &c. Garden tools of every description. Also, *Vegetable* and *Flower seeds*, crop of 1844, grown for this establishment, and warranted true to name. Among the collection are several new kinds, very superior—as Seymour's White Giant Celery—Union Head Lettuce. Also, Peas—Beans—Potatoes, &c.—Fruit-trees—Bulbous roots, &c., for sale at the lowest prices, by D. O. PROUTY.

Poudrette.

A valuable manure—of the best quality, prepared in Philadelphia, for sale at the office of the Farmers' Cabinet, No. 50, North Fourth Street, or at the manufactory, near the Penitentiary on Coates' street. Present price, $1 75 per barrel, containing four bushels—$5 for three barrels—$15 for ten barrels, or thirty cents a bushel. Orders from a distance, enclosing the cash, with cost of porterage, will be promptly attended to, by carefully delivering the barrels on board of such conveyance as may be designated. We were entirely unable last spring to supply the demand, though it was then but an experiment in this vicinity. The results on corn have been generally very satisfactory. Early applicants will be most certainly supplied. Farmers to the south and in the interior, both of this State and of New Jersey, are invited to try it. JOSIAH TATUM.

COLEMAN'S AGRICULTURAL TOUR IN EUROPE.

It will not be forgotten that subscriptions to this work, are received at the office of the Farmers' Cabinet; where every farmer in the country will be heartily welcome as a subscriber to both, or either of these publications. Single Numbers will be sold.

☞ SHORT ADVERTISEMENTS, ☜

The subject matter of which, may correspond with the agricultural character of this paper, will be inserted at the rate of one dollar for each insertion of ten lines or less; and so in proportion for each additional line. Payment in advance.

A vessel recently arrived at New York with a cargo of Guano, the first, we believe, brought into that port.

The quantity of rain and melted snow which fell during the First month, 1845, was about three and three-quarter inches. ..... 3.76 inches.

Penn. Hospital, 2nd mo. 1st.

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Terms.—One dollar per annum, or five dollars for seven copies—*payable in advance.*

All subscriptions must commence at the *beginning* of a volume. Having lately struck off a new edition of one or two of the former numbers, which had become exhausted, we are now able to supply, to a limited extent, any of the back volumes. They may be had at one dollar each, in numbers, or one dollar twenty-five cents half-bound and lettered.

For six dollars paid in advance, a *complete set* of the work will be furnished in numbers, including the ninth volume. The whole can thus readily be forwarded by mail. For twenty-five cents additional, per volume, the work may be obtained neatly *half-bound and lettered.* Copies returned to the office of publication, will also be bound upon the same terms.

By the decision of the Post Master General, the "Cabinet," is subject only to newspaper postage: that is, one cent on each number within the state, or within one hundred miles of the place of publication out of the state,—and one cent and a half to any other part of the United States—and Post Masters are at liberty to receive subscriptions, and forward them to the Publisher under their frank—thus affording an opportunity to all who wish it, to order the work, and pay for it without expense of postage.

Joseph Rakestraw, Printer.